CURTIS'S

BOTANICAL MAGAZINE,

COMPRISING THE

Plants of the Royal Gardens of Kew,

AND

OF OTHER BOTANICAL ESTABLISHMENTS IN GREAT BRITAIN;

WITH SUITABLE DESCRIPTIONS;

BY

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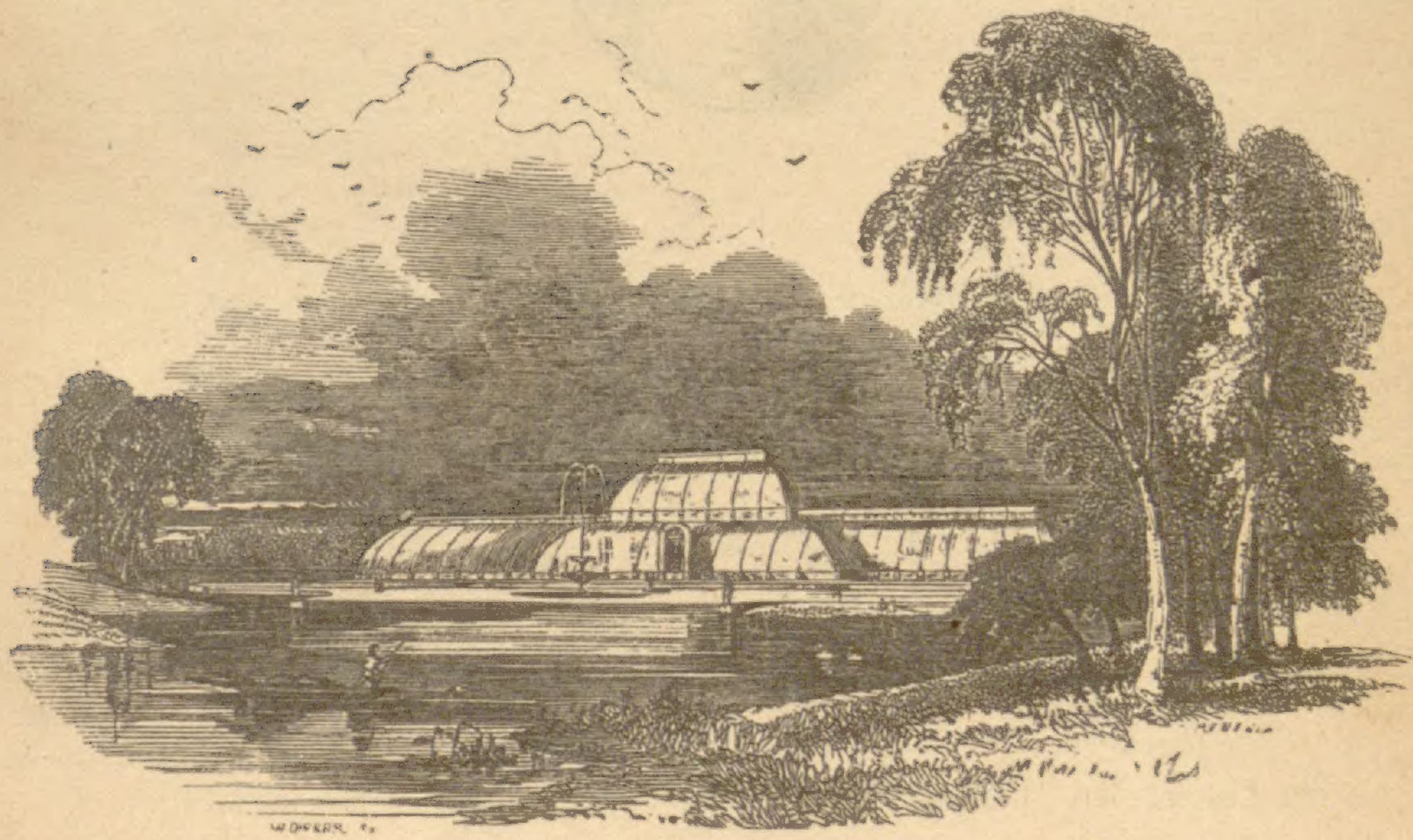
VOL. IX.

OF THE THIRD SERIES;

(Or Vol. LXXIX. of the Whole Work.)



"Another Flora here, of bolder hues,
And richer sweets."

LONDON:

LOVELL REEVE, HENRIETTA STREET, COVENT GARDEN.

1853.

JOHN EDWARD TAYLOR, PRINTER,
LITTLE QUEEN STREET, LINCOLN'S INN FIELDS.

TO

HIS EXCELLENCY SIR HENRY BARKLY, K.H.,

ETC. ETC. ETC.,

LATE GOVERNOR OF BRITISH GUIANA,

AND NOW OF THE

ISLAND OF JAMAICA,

WHO, AMIDST THE MANY ARDUOUS DUTIES ATTENDANT UPON HIS HIGH OFFICE,

HAS PATRONIZED AND ENCOURAGED

HORTICULTURE AND BOTANY IN OUR COLONIES,

The present Volume is Dedicated,

BY HIS EXCELLENCY'S FAITHFUL

AND ATTACHED FRIEND AND SERVANT,

W. J. HOOKER.

Royal Gardens, Kew,
December 1, 1853.

LIST

OF

ORCHIDEOUS PLANTS

INDIGENOUS TO ASSAM, AND THE NEIGHBOURING HILLS OF KHASYA, BOOTAN, ETC.

No.	NAMES.	Size and Colour of Flower.	Habit.
1 *	Microstylis Wallichii? . .	Small, pàr green	Ter.
2	Oberonia indifolia . . .	Minute, yellowish	Epi.
3 *	——— sp.	,, ,, ...	Ditto
4	Liparis sp.	Small, yellow	Ditto
5	——— sp.	,, ,, ...	Ditto
6 * *	——— sp.	Largish, green yellow	Ter.
7 *	——— sp.	Small, deep purple	Epi.
8	Otochilus fuscus	,, yellowish brown	Ditto
9	——— albus	,, ,, and white . . .	Ditto
10	Pholidota imbricata . . .	,, white	Ditto
11	——— undulata . . .	,, ,, ...	Ditto
12 *	——— articulata . . .	,, ,, ...	Ditto
13 *	——— sp.	,, ,, and yellow	Ditto
14 *	——— sp.	,, ,, ,, . . .	Ditto
15	Cœlogyne flavida	,, yellow	Ditto
16	——— undulata . . .	Largish, white	Ditto
17 *	——— fimbriata? . . .	,, ,, and brown . . .	Ditto
18 * *	——— uniflora	,, ,, and lateritious . .	Ditto
19	——— barbata	,, white	Ditto
20 *	——— præcox? . . .	,, ,, ...	Ter.
21 *	——— maculata . . .	Large, white, yellow, and rose . .	Ditto
22 * *	——— Wallichiana . .	,, ,, and rose	Ditto
23 * *	——— ocellata . . .	,, pale yellow and deep orange	Ditto
24 *	——— Gardneriana . .	,, white and yellow	Epi.
25	——— cristata? . . .	,, ,, streaked with bright yel.	Ter.
26	——— sp.	Small, brown and yellow . . .	Epi.
27 * *	——— flava?	Large, yellow and brown . . .	Ditto
28	——— sp.	Small, brown and yellow	Ditto
29 *	——— sp.	,, white and brown	Ditto
30	——— sp.	,, pale yellow	Ditto
31 * *	——— sp.	,, white (pretty)	Ter.
32 * *	——— sp.	Largish, pale cinnamon	Epi.
33 * *	Bolbophyllum leopardinum	Large, yellow spotted with purple .	Ditto
34	——— umbellatum .	Largish, dull yellow	Ditto
35 * *	——— Khasyanum .	Small, greenish	Ditto
36 * *	——— sp.	Largish, bright yellow	Ditto
37 *	——— sp.	Small, white, fragrant	Ditto
38 *	——— sp.	,, dull purple	Ditto
39	——— sp.	,, ,, ...	Ditto
40	——— sp.	,, ,, ...	Ditto
41 * *	Cirrhopetalum sp.	Small, greenish, fragrant	Ditto
42	——— sp.	,, dull purple	Ditto
43 *	——— sp.	Large, brown and yellow	Ditto
44 * *	——— sp.	Largish, dull purple	Ditto

List of Orchideous Plants Indigenous to Assam, etc.—continued.

No.	NAMES.	Size and Colour of Flower.	Habit.
45 * *	Cirrhopetalum sp.	Largish, dull purple	Epi.
46 *	Tricosina suavis	Large, white, purple, and yellow .	Ditto
47	Eria flava	Largish, dull yellow and brown .	Ditto
48	—— sp.	Largish, white streaked with brown	Ditto
49	—— densiflora	,, ,, tinged with yellow .	Ditto
50	—— ferruginea	,, ferruginous	Ditto
51	—— paniculata	Small, spotted with purple . . .	Ditto
52 * *	—— sp.	Largish, white	Ditto
53 *	—— sp.	,, ,, and dull purple . .	Ditto
54 *	—— sp.	,, ,, ,, . .	Ditto
55 *	—— sp.	Minute, rosy	Ditto
56	Aporum anceps	Small, white	Ditto
57	——— cuspidatum . . .	,, ,, ...	Ditto
58	——— sp.	,, ,, ...	Ditto
59 *	——— sp.?	Largish, white, yellow, and brown	Ditto
60	Dendrobium Pierardi . .	Large, pink and yellow	Ditto
61 *	——— heterocarpum .	,, yellow and brown, fragrant	Ditto
62	——— chrysanthum .	,, lively yellow and brown .	Ditto
63 *	——— Paxtoni . .	,, ,, ,, .	Ditto
64 *	——— sp. like ditto .	,, orange and brown . . .	Ditto
65 *	——— formosum . .	Very large, white and yell., fragrant	Ditto
66 * *	——— longicornu . .	Large, white and orange	Ditto
67	——— calceolus . .	Very dark yellow, rose, and purple	Ditto
68 *	——— sulcatum . .	Large, yellow and purple . . .	Ditto
69	——— Jenkinsii . .	,, lively yellow	Ditto
70	——— cærulescens .	,, deep lively purple . . .	Ditto
71	——— nobile . . .	,, white rosy purple . . .	Ditto
72 * *	——— Gibsonii . .	,, yellow and brown . . .	Ditto
73 *	——— stuposum . .	Small, white	Ditto
74 *	———Cambridgeanum	Large, lively yellow and brown .	Ditto
75 * *	——— transparens .	,, deep lively purple . . .	Ditto
76 *	——— like do., various	,, pale rose and purple . .	Ditto
77 * *	——— Devonianum .	,, Lellerose and yellow . .	Ditto
78 * *	——— Dalhousianum	,, rose, white, and purple . .	Ditto
79	——— multicaule . .	,, white and purple	Ditto
80 * *	——— Griffithii . .	,, pale yellow and orange . .	Ditto
81 * *	——— Farmerii . .	,, lively ,, ,, . .	Ditto
82 * *	——— densiflor. pallid.	,, white and orange	Ditto
83 * *	——— ditto roseum	,, pale rose and orange . . .	Ditto
84	——— intermedium .	,, pale yellow and brown . .	Ditto
85 *	——— sp.	,, lively orange	Ditto
86 *	——— sp.	,, ,, yellow and brown .	Ditto
87 * *	——— sp.	,, yellow, pink, and brown .	Ditto
88 *	——— sp.	,, pink and yellow	Ditto
89 * *	Spathoglottis pubescens .	Largish, yellow and purple . . .	Ter.
90	Arundina bambusifolia . .	Large, pale rose and lively purple .	Ditto
91 *	Pharus grandifolius . . .	,, white, brown, and purple .	Ditto
92	——— Wallichii	,, ,, ,, ,, .	Ditto
93 *	——— maculata	,, ,, rosy scented . . .	Ditto
94 *	——— albus	,, ,, ,, . . .	Ditto
95 * *	Apaturia senilis	Largish, rose and green	Ditto
96 * *	Ania latifolia	?	Ditto
97 *	Eulophia virens	Large, green and white	Ditto
98 * *	——— sp.	,, dull yellow and brown . .	Ditto

List of Orchideous Plants Indigenous to Assam, etc.—continued.

No.	NAMES.	Size and Colour of Flower.	Habit.
99 * *	Eulophia sp.	Large, deep purple	Ter.
100 * *	——— sp.	,, green and yellow	Ditto
101 * *	——— sp.	,, purplish green	Ditto
102	Vanda teres	Very large, rosy purple, yellow, and brown	Epi.
103 * *	——— cristata	Largish, greenish, white, and purple	Ditto
104 * *	——— multiflora	,, white and rose	Ditto
105 * *	——— cærulea	Very large, deep blue	Ditto
106 * *	——— sp.	Largish, dull purple	Ditto
107 * *	——— sp.	,, ,, and green . .	Ditto
108 * *	——— sp.	,, yellow and brown . . .	Ditto
109 * *	Camarotis purpurea . . .	Small, yellow and purple	Ditto
110	Micropera pallida	,, pale yellow	Ditto
111	Saccolabium micranthum .	,, rosy	Ditto
112	——— retusum . .	Largish, lively spotted	Ditto
113	——— papillosum .	Small, pale yellow and purple . .	Ditto
114 * *	——— calceolare . .	,, yellow and brown . . .	Ditto
115 * *	——— sp. like ditto .	,, pale ditto and rose . . .	Ditto
116	——— caroifolium .	,, rosy	Ditto
117 * *	——— dasypogon . .	,, green and purple	Ditto
118 *	——— appendiculatum	,, yellow	Ditto
119 *	——— sp.	,, rosy and deep purple . . .	Ditto
120 * *	Sarcanthus sp.	. . . . .	Ditto
121 * *	——— sp.	Small, rosy	Ditto
122 * *	——— sp.	,, white and yellow	Ditto
123 * *	——— sp.	,, ,, ,, ...	Ditto
124 * *	——— sp.	,, ,, ,, ...	Ditto
125 * *	Œceoclades sp.	,, rosy red	Ditto
126	Orides affine	Large, rosy purple	Ditto
127	——— odoratum	,, ,, sweet scented .	Ditto
128	——— sp. leaves linear-lan.	,, ,, ,, .	Ditto
129 * *	——— sp.	Large, like affine, and very sweet scented	Ditto
130	Agrostophyllum Khasyanum	Small, white	Ditto
131 *	Xiphosium acuminatum . .	Large ,, ...	Ditto
132	Acanthophippium sp. . . .	,, dull purple	Ter.
133 *	——— sp. . . .	,, white streaked	Ditto
134 *	Cymbidium giganteum . .	Very large, yellow and brown . .	Ditto
135	——— pendulum . .	Large, dull yellow and purple . .	Ditto
136	——— aloifolium . .	,, ,, ,, . .	Ditto
137 * *	——— eburneum . .	Very large, white	Ditto
138	——— inconspicuum .	Small, brown	Ditto
139	——— longipetalum .	Largish, green and purple . . .	Ditto
140 *	——— cyperifolium .	,, ,, ,, . . .	Ditto
141 * *	——— sp.	Large, fragrant, yellow, and white	Epi.
142 * *	——— sp.	,, brownish purple	Ditto
143 * *	——— sp.	Very large, white	Ditto
144 * *	——— sp.	Large, white and brown	Ditto
145 * *	——— sp.	,, green and dull purple . .	Ter.
146 * *	? Phalænopsis, sp.	,, yellow and reddish brown .	Epi.
147	Euproboscis pygmæa . . .	Minute, yellow	Ditto
148	Geodorum dilatatum . . .	Large, white, purple, and yellow .	Ditto
149 *	——— sp.	,, deep rosy purple and white	Ditto
150 * *	Platanthera sp.	,, white	Ditto
151 * *	Peristylus sp.	Largish, white, sweet scented . .	Ditto
152	Habenaria hamigera? . .	Small, green	Ditto

List of Orchideous Plants Indigenous to Assam, etc.—continued.

No.	NAMES.	Size and Colour of Flower.	Habit.
153	Habenaria sp.	Small, yellow	Epi.
154	——— sp.	„ greenish yellow	Ditto
155 *	——— sp.	„ white	Ditto
156 **	——— sp.	Large, white	Ditto
157 **	Pogonia Joliana	Small, rosy white	Ditto
158 **	——— sp.	Largish, green	Ditto
159 **	——— sp.	Small, purple	Ditto
160 **	Cyrtosia sp.	Largish, golden yellow	Ditto
161 **	Spiranthes sp.	Small, white	Ditto
162 **	Zeuxine sulcata	„ „	Ditto
163 **	Anœctochilus Roxburghii .	„ rosy white	Ditto
164 **	——— sp.	„ white	Ditto
165 **	Cypripedium venustum . .	Large, green and purple	Ditto
166 **	——— insigne . . .	„ red and yellow	Ditto
167 **	Calanthe densiflora . . .	„ lively yellow	Ditto
168 **	——— sp.	Small, brown and yellow . . .	Ditto
169 **	——— sp.	Large, white and green	Ditto
170 **	——— sp.	„ „ and yellow	Ditto
171 **	——— sp.	„ dull purple	Ditto
172	Goodyera sp.	Small, white	Ditto
173	——— sp.	„ „	Ditto
174	——— sp.	„ „ dull purple	Ditto
175 **	Ophrys sp.	Largish, rosy purple	Ditto
176 **	——— sp.	„ green and purple . . .	Ditto
177 **	Anthogonium sp.	„ rosy	Ditto
178 *	Bonatea sp.	Small green	Ditto

Æschynanthus (3 to 4 sp.); Hoya (5 or 6 sp.); Arum (several); Lilium (1 sp.); Nepenthes (1 sp.); Ferns and Lycopodiums (150 to 200 sp.); Palms (Livistona, Leoxala, Caryota, Calamus, etc.) are also indigenous, and can be sent if required.

Plants not marked are common.
Ditto marked with an asterisk are considered rare.
Ditto marked with two asterisks are considered very rare.

The charges for a box of 4 cubic feet measurement, containing an equal selection of the three kinds, will be £5, or 50 Rupees, deliverable at Calcutta. When Plants which are rare or very rare are required, the charges will be according to the kind taken; for the rare, 1R. 8a. a Plant; for the very rare, 2 Rupees a Plant. When very large Plants are directed to be sent, no extra charge will be made.

When new Plants, not included in the list, are sent, a separate charge will be made. When two boxes or more are taken, a discount of 10 per cent. will be allowed.

Plants can also be sent in glass cases, on the Wardian plan, measuring 2 feet 6 inches in length, 2 feet breadth, and 2 feet 7 inches in height, for which an extra charge of 20 Rupees will be made. Glass covers can also be supplied for the other boxes at an extra charge of 10 Rupees.

Application to be made to

Messrs. CHARLES CANTOR & CO., in Calcutta.

ASSAM, *August*, 1852.

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In which the Latin Names of the Plants contained in the Ninth Volume of the THIRD SERIES (or Seventy-ninth Volume of the Work) are alphabetically arranged.

Plate.	
4740	Abies bracteata.
4794	Abelia uniflora.
4698	Allosorus cordatus.
4693	Aquilegia Kanaoriensis.
4728	Azalea amœna.
4726	—— crispiflora.
4746	Begonia biserrata.
4689	—— rubro-venia.
4692	—— Thwaitesii.
4744	Berberis concinna.
4756	Billbergia thyrsoidea.
4734	Brassavola lineata.
4741	Bravoa geminiflora.
4717	Brillantaisia Owariensis.
4714	Calanthe gracilis.
4748	Campanula Vidalii.
4729	Cantua bicolor.
4700	Cattleya elegans.
4707	Cereus MacDonaldiæ.
4753	Cirrhopetalum cornutum.
4712	Cœlia macrostachya.
4691	Cœlogyne maculata.
4754	Coleus Blumei.
4690	—— Macraei.
4710	Crossandra flava.
4755	Dendrobium cymbidioides.
4708	—— heterocarpum.
4711	—— teretifolium.
4733	Dichorisandra leucophthalmos.
4750	Dictyanthus Pavonii.
4757	Didymocarpus Humboldtiana.
4702	Dipladenia flava.
4720	Episcia melittifolia.
4703	Eriogonum compositum.
4742	Erythrochiton Brasiliense.

Plate.	
4731	Fritillaria oxypetala.
4701	Galeandra Baueri; var. floribus luteis.
4697	Gaultheria ferruginea.
4735	Gilia (Leptosiphon) lutea.
4706	Gymnostachyum Ceylanicum.
4745	Hæmanthus insignis.
4704	Impatiens Hookeriana.
4739	—— Jerdoniæ.
4725	Lilium roseum.
4723	Littonia modesta.
4724	Lopezia macrophylla.
4747	Metternichia Principis.
4695	Neptunia plena.
4699	Notholæna sinuata.
4736	Pandanus pygmæus.
4749	Papaver pilosum.
4752	Passiflora Medusæa.
4738	Philesia buxifolia.
4709	Pitcairnia echinata.
4705	—— macrocalyx.
4751	Plumieria Jamesoni.
4715	Puya Chiliensis.
4696	—— sulphurea.
4718	Rhododendron Dalhousiæ.
4721	—— glaucum.
4730	—— niveum.
4737	Rhynchospermum jasminoides.
4716	Sandersonia aurantiaca.
4743	Scheeria Mexicana.
4727	Semeiandra grandiflora.
4719	Skimmia Japonica.
4713	Syphocampylus Orbignianus.
4732	Vaccinium ovatum.
4722	Xanthorrhœa Hastile.

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In which the English Names of the Plants contained in the Ninth Volume of the THIRD SERIES (or Seventy-ninth Volume of the Work) are alphabetically arranged.

Plate.

4694 Abelia, large-flowered.
4698 Allosorus, heart-leaved.
4728 Azalea, bright-flowered.
4726 ——— crisped-flowered.
4704 Balsam, Hooker's.
4739 ——— Mrs. Jerdon's.
4746 Begonia, doubly-serrated.
4689 ——— red-veined.
4692 ——— Mr. Thwaites's.
4748 Bell-flower, Vidal's.
4744 Berberry, neat.
4756 Billbergia, dense-flowered.
4734 Brassavola, line-leaved.
4741 Bravoa, twin-flowered.
4717 Brillantaisia, Owarian.
4714 Calanthe, slender.
4729 Cantua, two-coloured.
4701 Casquewort, Bauer's; yellow-flowered variety.
4700 Cattleya, elegant.
4707 Cereus, Mrs. M'Donald's great night-flowering.
4753 Cirrhopetalum, horn-bearing.
4712 Cœlia, long-spiked.
4691 Cœlogyne, spotted-flowered.
4690 Coleus, Mr. Macrae's.
4754 ——— Blumè's.
4693 Columbine, Kanaor.
4710 Crossandra, yellow-flowered.
4755 Dendrobium, Cymbidium-like.
4711 ——— round-headed.
4708 ——— various-fruited.
4733 Dichorisandra, white-eyed.
4750 Dictyanthus, Pavon's.
4757 Didymocarpus, Humboldtian.
4702 Dipladenia, yellow-flowered.

Plate.

4720 Episcia, Melittis-leaved.
4703 Eriogonum, twice-umbelled.
4742 Erythrochiton, Brazilian.
4731 Fritillary, sharp-petaled.
4697 Gaultheria, rusty.
4706 Gymnostachyum, Ceylon.
4745 Hæmanthus, showy.
4735 Leptosiphon, or Yellow Gilia.
4725 Lily, rose-coloured.
4723 Littonia, unassuming.
4724 Lopezia, large-leaved.
4747 Metternichia, princely.
4699 Notholæna, sinuated.
4752 Passion-flower, Medusean.
4738 Philesia, box-leaved.
4709 Pitcairnia, echinated-flowered.
4705 ——— large-calyxed.
4751 Plumieria, Jameson's.
4749 Poppy, large hairy.
4715 Puya, Chilian.
4696 —— sulphur-flowered.
4721 Rhododendron, glaucous-leaved.
4718 ———————Lady Dalhousie's
4730 ——————— snowy-leaved.
4737 Rhynchospermum, jasmine-flowered.
4716 Sandersonia, golden-flowered.
4743 Scheeria, Mexican.
4736 Screw-pine, dwarf.
4727 Semeiandra, large-flowered.
4719 Skimmia, Japan.
4713 Syphocampylus, D'Orbigny's.
4695 Water-Sensitive, the double yellow.
4732 Whortleberry, ovate-leaved.
4722 Yellow-gum, spear.

Fitch, del et lith

F. Reeve, imp.

Tab. 4689.

BEGONIA RUBRO-VENIA.

Red-veined Begonia.

Nat. Ord. Begoniaceæ.—Monœcia Polyandria.

Gen. Char. (*Vide supra*, Tab. 4172.)

Begonia *rubro-venia ;* glaberrima, caule brevi paucifloro, foliis longe petiolatis oblique ovatis valde acuminatis inæqualiter dentato-serratis supra albo-maculatis subtus purpureis, stipulis magnis e lata basi subulatis, pedunculis axillaribus petiolum superantibus, floribus corymbosis, petalis 4, 2 ext. majoribus venis rubris pictis, capsulæ rubro-striatæ alis duabus brevibus rotundatis tertia horizontaliter elongata elliptica obtusa.

From the stove of Thomas Nuttall, Esq., Rainhill, near Preston, Lancashire, having been detected and brought home from Bootan by his nephew, Mr. Booth, along with the equally remarkable *Begonia xanthina*, figured at Tab. 4683 of the present work. It evidently belongs to the same group or tribe of the extensive genus of *Begonia* as that plant, but is widely different in specific character.

Descr. *Root* a short thick *caudex* or *rhizoma*, sending down numerous fibres from beneath. *Stem* short, scarcely branched, and bearing few leaves; terete, fleshy, red. *Leaves* two or three springing from the root, the rest alternate, rather large, on long, grooved, red *petioles*, from two to four or five inches long: the blade of the leaf measures about six inches in length, is obliquely (or inequilaterally) ovate, subcordate at the base, much and gradually acuminated into a long point; the margins unequally dentato-serrated, glabrous (as is the whole plant), the upper side dark satiny-green, glossy, marked and dashed with white blotches; the underside of a full but rather dull purple colour, and the veins are prominent. *Stipules*, a pair of opposite ones at the base of the petioles, large, membranous, from a broad base tapering into a subulate point, yellowish-green with a red central line. *Peduncles* axillary, solitary, red, terete, longer than the petiole and much slenderer, erect, bearing a *corymb* of eight to ten or more

drooping *flowers*. Male and female flowers each with four spreading white *sepals*, the male the largest; in both, the two outer and larger, cordato-rotundate, slightly concave ones are the largest, and beautifully and longitudinally veined with red; the inner and smaller sepals are nearly elliptical and pure white. *Anthers* yellow, in a compact capitulum. *Fruit* three-winged, beautifully striated transversely with red; two of the wings short and rounded; the third very much elongated transversely and obtuse.

Fig. 1. Fruit:—*magnified*.

1

2.

Tab. 4690.

COLEUS Macraei.

Mr. Macrae's Coleus.

Nat. Ord. Labiatæ.—Didynamia Angiospermia.

Gen. Char. Calyx ovato-campanulatus, *fructifer* declinatus v. reflexus, rarius suberectus, *fauce* intus nuda vel hispida, 5-dentatus v. bilabiatus, dente supremo ovato membranaceo marginibus rarius decurrentibus, inferioribus angustioribus, omnibus acutis v. lateralibus ovato-truncatis, 2 infimis sæpe inter se connatis. *Corolla tubo* exserto declinato, decurvo v. sæpius defracto, *fauce* inflata v. æquali, *limbo* bilabiato, labio superiore abbreviato obtuso 3–4-fido, inferiore integro elongato concavo, sæpius cymbiformi, genitalia involvente. *Stamina* 4. *Filamenta* edentula, basi in tubum stylum vaginantem connexa. *Stylus* apice subulatus, æqualiter bifidus. *Nuculæ* subrotundato-compressæ, læves.—Herbæ *annuæ v. basi perennantes, rarius* frutices. Verticillastri *sexflori v. sæpius multiflori, nunc densissimi, nunc laxi, cymæformes*, pedunculo communi *utriusque cymæ rarinsve utrinque binis plus minusve elongatis.* Folia floralia *bracteæformia, ante anthesin ad apicem racemorum plus minusve comosa, per anthesin decidua v. rarius subpersistentia, reflexa.*—Species *pleræque Asiaticæ, perpaucæ Africanæ. Benth.*

Coleus *Macraei;* pubescens, foliis longe petiolatis ovatis acuminatis (discoloribus) basi rotundatis vel cuneatis, floralibus deciduis, racemis paniculato-ramosis, verticillastris quadrifariam cymosis, pedunculo communi utrinque subnullo, ramis valde elongatis, pedicellis brevissimis, calycibus fructiferis nutantibus glabris basi subinflatis, intus fauce nuda, dente supremo ovato acutiusculo, marginibus revolutis, inferioribus lanceolatis acutis, 2 lateralibus ultra medium invicem connatis, corollæ tubo exserto fauce amplissima, labio inferiore elongato porrecto. *Benth.*

Coleus Macraei. *Benth. Gen. et Sp. Labiat. p.* 58; *et in De Cand. Prodr. v.* 12. *p.* 77. *Walp. Repert. Bot. v.* 3. *p.* 519.

Raised from seeds sent to the Royal Gardens of Kew from Ceylon by Mr. Thwaites. The plants flowered in the stove during the summer and autumn of 1852, and made a really handsome appearance from their copious ample foliage, of a rich purple colour beneath, and from their large panicles of flowers, variegated with white and dark purple. The structure of the corolla is very curious in the sudden geniculation near the

middle of the tube, in the ample and compressed faux, and especially in the large boat-shaped lower lip. The style, too, is bent at an angle in conformity with the tube of the corolla. The species seems to be confined to the island of Ceylon. Mr. Bentham notices its affinity with *C. Malabaricus*, "à quo differt foliis multo minoribus angustioribus et inflorescentiâ."

Descr. Nearly glabrous in every part. *Stems* two to three feet high, quadrangular, dark purple, branched, with opposite *branches*. *Leaves* varying much in size, the lower ones six inches long, with petioles four to five inches long; upper ones gradually smaller and on shorter petioles; all of them ovate, acuminate, serrated, submembranaceous, somewhat glossy, dark-green above, beneath deeply purple, as are the *petioles;* the veins pinnated, with the lateral ones united by cross veinlets. *Panicle* large, terminal; *branches* opposite, bracteated at the setting on of the branches and under the whorls; *bracts* greenish-purple, broad ovate, mucronated. *Pedicels* very short. *Calyx* small, cup-shaped: upper lip of one large cordate acuminated tooth; lower lip quadridentate, spreading. *Corolla* large, white: the *tube* long, slender, below gibbous on one side at the base, suddenly geniculated or bent at an angle near the middle; the *faux* very large, compressed: upper *lip* erect, broad, truncated, two-lobed, with a large purple blotch, each lobe emarginated; lower *lip* very large, boat-shaped, acute. *Stamens* lodged in the lower lip, and not protruded beyond it. *Anthers* short, oblong, apiculate. *Ovary* with a very large fleshy gland, twice the size of the ovary. *Style* filiform, bent at an angle where the geniculation of the corolla takes place, dilated upwards: *Stigma* bifid.

Fig. 1. Flower. 2. Pistil:—*magnified.*

4697

1

2.

F. Reeve, imp

Tab. 4691.

CŒLOGYNE maculata.

Spotted-flowered Cœlogyne.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4440.)

Cœlogyne *maculata;* pseudobulbis depresso-rotundatis basi tuberculatis, foliis (serotinis) "lanceolatis plicatis," floribus radicalibus, pedunculo brevi vaginato, labelli lobis lateralibus abbreviatis integris, intermedio ovato retuso undulato lineis 5 rectis denticulatis albis interstitiis purpureis.

Cœlogyne maculata. *Lindl. Gen. et Sp. Orchid. p.* 43; *et in Wall. Plant. Asiat. Rarior. v.* 1. *p.* 45. *t.* 53.

Pleione maculata. *Lindl. et Paxt. Flower Gard. v.* 2. *t.* 39.

Gomphostylis candida. "*Wallich Ic. Pict. in Museo Anglico-Indico, n.* 651." *Lindl.*)

A scarcely less beautiful species of *Cœlogyne* than that we figured at Tab. 4446 of this work (*C. Wallichii*); and it inhabits the same country, growing on rocks in Khasya (Wallich, J. D. Hooker, and Thomson) and in Assam, from which latter country it was sent by Mr. Simons to the Royal Gardens of Kew. With us it flowered in October. The leaves are unfortunately not produced at the same time with the flowers; and the pseudo-bulbs, though richly coloured with brown and green, and thus contrasting with the white sepals of the flowers, are strangely misshapen, and below, especially, tuberculated almost like a *Mammillaria*. It belongs to Dr. Lindley's section of this now very numerous genus, *Gomphostylis* (Wall. MS. Pleione*, *Don*): "Folia sero-

* In the 'Flower Garden' Dr. Lindley has adopted Don's genus *Pleione* for this plant, but he speaks cautiously of the necessity of so doing; "The habit of the plants (of the genus *Pleione*) is so peculiar that it seems desirable to separate them from *Cœlogyne*, if any character can be found; and we think the membranous bracts and strongly saccate lip, with fringed veins of *Pleione*, may be taken to offer a sufficient distinction from *Cœlogyne*, with its horny or cartilaginous deciduous bracts, and lip merely concave at the base, with two or three continuous crests rising up from the veins." The species thus referred to *Pleione* are, besides our *maculata*, *P. lagenaria*, *P. Wallichiana*, *P. præcox*, *P. humilis*, and *P. diphylla*.

tina. Pseudo-bulbi vaginis reticulatis tecti, cute tenera nec cornea, lucida. Flores solitarii, radicales, pedunculo vaginato. Labellum fimbriatum, basi saccatum. Columna apice petaloidea, cucullata. Pollinia materie granulosâ cohærentia."

Descr. Our plant has at present exhibited no *leaves*: these are described by Dr. Lindley as lanceolate and plicate. The *pseudo-bulbs* are moderately large, subrotund, singularly depressed at the top, so as to form a kind of ring around a short thick beak, whence the leaves have fallen; dark green, glossy, the base tuberculated, and partially clothed with brown, imbricating scales. *Flowers*, one or two from the sides of each pseudo-bulb, and springing from near the fibrous roots. *Peduncle* short, sheathed below with ventricose green scales; above bearing a large membranous spathaceous *bract*. *Flower* moderately large. *Sepals* spreading, white, narrow, lanceolate, sometimes with a streak of purple towards the apex. *Lip* oblong, white, three-lobed; the lateral lobes short, incurved, marked with oblique purple lines; middle lobe broad, ovate, retuse, waved, spotted with purple, the disc for its whole length bearing five elevated fringed *lamellæ*, with a purple line between them. *Column* slender, semiterete, white, with two red streaks in front, the apex dilated into a petaloid white hood, with a tooth on each side. *Anther-case* white, sunk in the cucullate apex of the column.

Fig. 1. Lip. 2. Column:—*magnified.*

Fitch del. et lith.

F. Reeve, imp

Tab. 4692.

BEGONIA Thwaitesii.

Mr. Thwaites's Begonia.

Nat. Ord. Begoniaceæ.—Monœcia Polyandria.

Gen. Char. (*Vide supra*, Tab. 4172.)

Begonia *Thwaitesii;* acaulis, foliis vix inæquilateralibus longiuscule petiolatis cordatis acutis vel acuminatis obscure lobatis crenato-serratis intense viridi-purpureis albo-maculatis superne subtusve pilis copiosis purpureis velutinis marginibus nudis, stipulis ovatis acuminatis, scapis plurimis petiolis brevioribus, floribus subumbellatis tetrasepalis, capsulæ angulis tribus brevibus rotundatis subæqualibus duplicato-ciliatis.

Among the many handsome new species of this most extensive genus, I scarcely know one with more richly-coloured foliage than the present, nor one that better deserves to bear the name of its discoverer, Mr. Thwaites, the present able superintendent of the Botanic Garden at Peradenia, Ceylon. We are indebted to that gentleman for living plants of it, which flowered in a warm stove in June of the present year, 1852. The flowers are moderately large, white, tinged with pink; but they are quite thrown in the background by the comparatively large highly-coloured coppery leaves, clothed on both surfaces with the deep red-purple velvety hairs, the edge being free from hairs. By these leaves, and by the nearly equal and short wings of the fruit, bearing a double row of hairs, the species is readily distinguished.

Descr. *Leaves* altogether radical, springing several from one point on longish *petioles*, which are stipulated at the base: their form is broad, cordate, scarcely unequally sided; the *sinus* deep, the *lobes* rounded, the apex acute or acuminated, the margin (not hairy) slightly lobed (especially the larger ones), and crenato-dentate: the colour is rich coppery, a mixture of green and red-purple, redder beneath, the upper surface frequently blotched with white; a still greater richness of colour is given to both surfaces by the copious deep purple velvety hairs, which do not

however extend to the edge. *Scapes* shorter than the petioles. *Flowers* subumbellate. *Flowers* moderately large, and nearly the same size in the male as in the female. *Sepals* four, white, tinged with pink, especially the two outer ones, which are large, more rotundate than the inner ones. *Capsule* subrhomboid in outline, triquetrous, marked with transverse veins; the angles furnished with wings nearly equal in size, small, rounded, and ciliated with a double row of hairs.

Fig. 1. Capsule:—*magnified*.

Fitch, del et lith.

F. Reeve, imp.

Tab. 4693.

AQUILEGIA Kanaoriensis.

Kanaor Columbine.

Nat. Ord. Ranunculaceæ.—Polyandria Pentagynia.

Gen. Char. Calyx 5-sepalus, deciduus, colorato-petaloideus; *petala* 5, superne hiantia, bilabiata, labio superiore magno plano, interiore minimo, deorsum producto in calcaria totidem cava apice callosa inter sepala exserta. *Ovaria* 5. *Capsulæ* totidem, erectæ, polyspermæ, stylis acuminatæ. *De Cand.*

Aquilegia *Kanaoriensis;* caule petiolis pedunculisque glanduloso-puberulis, calcaribus rectis foliola calycina æquantibus, limbo petalorum obovato, staminibus stylisque petalis brevioribus, fructibus pilosiusculis. *Cambess.*

Aquilegia Kanaoriensis. *Jacquem. MS. Cambess. in Jacquem. Voy. Bot. p.* 7. *t.* 5. *Walp. Repert. Bot. v.* 1. *p.* 51.

In the present species of *Columbine*, sent from Western Himalaya to the Royal Gardens of Kew by Dr. Thos. Thomson, we cannot boast of flowers to be compared with the American *Aquilegia leptoceras*, which we figured at our Tab. 4407; but we have here a plant in all respects much more nearly resembling our *A. vulgaris*, yet distinguished from it in all the specimens we have seen, both wild and cultivated, by the erect, not incurved, spurs of the petals, and the glandularly pubescent peduncles and flowers (externally). I am aware that Dr. Thomson, who has seen the plant abundantly in its native locality, and Dr. Hooker, who is at this moment engaged with him in a careful investigation of all the Indian *Ranunculaceæ*, are of opinion that this can only be considered a form of our *A. vulgaris*, and that they have seen what they consider intermediate states. Assuredly in our Garden the two have a very different appearance and tangible characters. M. Jacquemont found it at Kanaor, and between Cashmere and Tibet, at elevations of from 3450 to 3500 mètres; Dr. Thomson in the upper part of the the Piti valley, and in all the drier parts of North-west Himalaya, from Cashmere to Kamaon, at elevations varying from 10,000 to

15,000 feet. With us it flowers in the open border in May and June.

Descr. Our *plants* have not attained to more than twelve or fourteen inches in height, and are entirely of a very glaucous hue. *Radical leaves* on long footstalks, bi-tri-ternate: all the leaflets petiolate, cuneate, three-lobed: *terminal lobes* generally trifid, and more or less incised; *lateral lobes* often and again cut into two or three large teeth: *cauline leaves* remote, on shorter and less divided or less compound petioles; the uppermost leaf of all often reduced to a lanceolate *bractea*. The *stem* is divided into two or three branches, each branch terminating in a rather elongated *peduncle*, bearing a single drooping *flower* of a purplish-blue colour, the petals white at the apices: in general shape resembling our common *A. vulgaris;* but all the spurs are straight (not incurved), capitate at the apex.

Fitch, del et lith

Tab. 4694.

ABELIA uniflora.

Large-flowered Abelia.

Nat. Ord. Caprifoliaceæ.—Pentandria Monogynia.

Gen. Char. Calyx tubo cum ovario connato, lineari-oblongo, compressiusculo, hinc uninervi inde quinquenervi, apice in collum subangustato, limbi superi quinquepartiti laciniis foliaceis, spathulato-oblongis, persistentibus. *Corolla* supera infundibuliformis, limbi quinquefidi patentis laciniis ovatis obtusis subæqualibus. *Stamina* 4, *corollæ tubo* inserta, subdidynama, inclusa v. breviter exserta. *Ovarium* inferum, triloculare, loculis duobus pluriovulatis abortientibus, tertio uniovulato fertili. *Ovula* anguli centrali loculorum inserta, sterilium uniseriata, inferiora pendula, supremum adscendens, loculi fertilis pendulum, anatropum. *Stylus* subexsertus. *Stigma* depresso-capitatum, indivisum. *Bacca* coriacea, exsucca, calycis limbo coronata, trilocularis, loculis duobus sterilibus minoribus, tertio fertili monospermo. *Semen* inversum, subcylindricum. *Embryo* in axi albuminis carnosi brevis, orthotropus, cotyledonibus obtusis, radicula umbilico proxima, supera.—Frutices *Chinenses et Indici, decumbentes v. erecti, debiles, glabri;* foliis *oppositis, petiolatis, dentato-crenatis,* pedunculis *modo axillaribus trichotomis v. trifidis, modo terminalibus indivisis,* involucro *uni-bi-multifloro,* foliolis *sex v. pluribus. Endl.*

Abelia *uniflora;* foliis oppositis ternisque ovato-lanceolatis acuminatis subcoriaceis acute serratis, pedunculis 1–3-floris, bracteolis ad basin ovarii tribus, sepalis 2–4 oblongo-subspathulatis corollis duplo brevioribus, staminibus vix exsertis.

Abelia uniflora. *Br. in Wallich, Plant. Asiat. Rar. v.* 1. *under Tab.* 15. *De Cand. Prod. v.* 1. *p.* 339. *Lindl. Bot. Reg.* 1846, *under Tab.* 8; *and Paxt. Fl. Gard. v.* 2. *p.* 145, *with woodcut. Walp. Repert. Bot. v.* 6. *p.* 3.

Abelia serrata. *Siebold et Zuccar. Fl. Japon. v.* 1. *t.* 31.

Introduced by Mr. Fortune, from the north of China, to the nursery of Messrs. Standish and Noble, where it has survived the winter, in the open air, without any protection, and promises to be not only a hardy but an ornamental shrub. With us, in a cool greenhouse, it has flowered in June. It is considered by Dr. Lindley to be the *Abelia uniflora* of Mr. Brown, in Wallich's 'Plantæ Asiaticæ Rariores' (without character), on the ground of its being a plant of Mr. Reeves', known to be the same as the

present. The name however is unhappily chosen, for our living plants bear frequently three flowers from a peduncle. Dr. Lindley justly observes that Siebold and Zuccarini's *A. serrata* of Japan is very near our present plant; and a small authentic specimen I have in my possession would tend to confirm that opinion. The pubescence is a variable character, and so assuredly is the degree of serrature on the leaves, so likewise the size of the flowers and the number of sepals. In our specimens the latter vary from two to four: in the *A. serrata* they are described as five.

Descr. A spreading, somewhat decumbent, small *shrub*, with slender *branches*, and usually opposite, but sometimes ternate, broad, lanceolate, shortly petiolate, acuminated, subcoriaceous, dark green, perennial *leaves*, pale beneath. *Peduncles* axillary, short, scarcely longer than the petioles, bearing one to three flowers. *Calyx-tube* oblong-cylindrical, furrowed, slightly hairy, subtended by an *involucre* of three small *bracteoles:* the limb generally of two, but varying to three and four, oblong-spathulate, nerved, red-brown, spreading *sepals*, longer than the tube, but less than half the length of the corolla. *Corolla* white, tinged with blush; the *tube* infundibuliform, narrow, dilated at the base into an obtuse *spur;* the *limb* obscurely two-lipped; upper lip two, lower one three-lobed, the lobes obtuse, spreading; the throat wide, hairy on the lower surface, and streaked with yellow. *Stamens* four, included, didynamous; *style* rather longer than the stamens, slender; *stigma* capitate.

Fig. 1. Calyx and pistil, with the involucre at the base of the ovary:—*magnified.* 2. Ovary cut through transversely:—*more magnified.*

Fitch, del et lith.

F. Reeve, imp.

Tab. 4695.

NEPTUNIA plena.

The Double Yellow Water-Sensitive.

Nat. Ord. Leguminosæ.—Decandria Monogynia.

Gen. Char. Flores superiores, v. rarius omnes, hermaphroditi, sessiles. *Calyx* campanulatus. *Petala* 5, ad medium cohærentia v. rarius libera. *Stamina* 10, rarius 5, libera, exserta. *Antheræ* ovatæ, glandula stipitata superatæ. *Flores* inferiores nunc neutri filamentis filiformibus anantheris, nunc masculi. *Legumen* oblongum, a stipite deflexum, planum, continuum, valvulis 2 membranaceis dehiscens, intus inter semina incomplete septatum, epulposum. *Semina* transversa, funiculo filiformi appensa.—Herbæ suffruticesve *inermes, prostratæ vel natantes.* Folia *bipinnata*, foliolis *parvis.* Glandula *inter v. infra pinnas jugi infimi v. sæpius nulla.* Stipulæ *membranaceæ, oblique cordatæ, acuminatæ.* Pedunculi *axillares, solitarii*, bracteis 1–2 *stipulæformibus onusti.* Capitulum *ad apicem pedunculi ovato-globosum. Benth.*

Neptunia *plena;* prostrata v. adscendens, glabra v. hinc inde minute puberula, ramis compressis triquetrisve, pinnis 3–5-jugis glandulis inter pinnas infimas, foliolis 12–40-jugis, capitulis ovoideis, floribus neutris numerosis, staminibus 10, legumine breviter stipitato 5–20-spermo. *Benth.*

Neptunia plena. *Benth. in Hook. Journ. of Bot. v.* 4. *p.* 35. *Lindl. Bot. Reg.* 1846. *t.* 3.

Neptunia polyphylla. *Benth. l. c. v.* 2. *p.* 129.

Desmanthus plenus. *Willd. Sp. Pl. v.* 4. *p.* 1045. *De Cand. Prodr. v.* 2. *p.* 444.

Desmanthus punctatus. *Willd. l. c. p.* 1047. *De Cand. Prodr. v.* 2. *p.* 444.

Desmanthus polyphyllus. *De Cand. Prodr. v.* 2. *p.* 444.

Mimosa plena. *Linn. Sp. Pl.* 1502. *Mill. Ic. t.* 182. *f.* 2.

Mimosa punctata. *Linn. Sp. Pl.* 1502.

Mimosa adenanthera. *Roxb. Fl. Ind. v.* 2. *p.* 554.

The above are the synonyms adduced by Mr. Bentham as all belonging to this very curious, and, in respect of cultivation, rare aquatic. It is a native of the tropics, both of the Old World (the East Indies) and of the New World (West Indies and the mainland of South America). Mr. Purdie introduced it to our Aquaria at Syon and at Kew from Jamaica; but we fear it has now disappeared at both establishments. The white spongy

lower portion of the stems, full of air-cells, enabling it to float, are very remarkable. From the more slender and deeply striated and furrowed portions the leaves and flower-stalks appear: the former are as irritable in the petioles and leaflets as are those of the common *Humble-plant*, and of an extremely delicate yellow-green colour. The flowers are minute, but they are collected into a large ovoid head, the lower half of which is quite yellow from the numerous dilated and subpetaloid antherless stamens. True stamens are only found in the upper flowers, and we have not in our specimens seen any pistils. It flowered in the summer months with us.

Descr. *Plant* floating. *Stems* prostrate, branched, downy, deeply furrowed on the lower portion, or that bearing the numerous, plumose, calyptrate fibres, very thick, swollen, white and spongy. *Leaves* alternate, remote, set on as it were by an articulated, purple, swollen base, pari-bipinnate, highly sensitive; *pinnæ* three to five pairs, distant, nearly sessile, linear-oblong; *leaflets* numerous, crowded, linear, obtuse. *Stipules* obliquely ovate, much acuminate, dimidiate, membranaceous, coloured. Just below the setting on of the lower pinnæ is a conspicuous *gland*. *Peduncle* axillary, nearly as long as the leaf, with one or two *bracteas*, like the stipules of the leaves. *Flowers* small, collected into a head an inch and a half or more long, ovoid, and remarkable for the upper part bearing perfect *stamens* (no pistils in our specimens): in the lower numerous flowers the stamens are all petaloid and yellow, linear-lanceolate, tapering at both extremities. The *petals* of the antheriferous flowers small and lanceolate. The *anthers* orange-brown.

Fig. 1. Flower from the lower part of a capitulum. 2. Flower from the apex of a capitulum:—*magnified*.

Tab. 4696.

PUYA sulphurea.

Sulphur-flowered Puya.

Nat. Ord. Bromeliaceæ.—Hexandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4309.)

Puya *sulphurea* ; acaulis, foliis inermibus lineari-lanceolatis tenui-acuminatis obscure nervosis basi angustatis canaliculatis, spica solitaria pedunculata (una cum pedunculo folia subsuperantibus) strobiliformi apice acuminata, bracteis inferioribus foliaceis, superioribus (floriferis) ovatis anguste acuminatis erectis concavis dense imbricatis purpureo-rufis apice viridibus, floribus sessilibus sulphureis longe exsertis, petalis squama bifida prope basin, staminibus subinclusis.

Puya sulphurea. *Hort. Hernhauss.*

Although this is far inferior in point of beauty and of size to the splendid *Puya Altensteinii*, var. *gigantea*, figured at our Tab. 4309, it is nevertheless a handsome-looking plant, and has the merit of flowering in the winter months (with us in December). We received it from the Royal Garden of Hernhaussen, under the name we have retained ; but who is the author of the name, or whether or not anywhere published, and even regarding the native country, we are ignorant. The genus (of Molina) is the same as *Pourretia* of Ruiz and Pavon, *Pitcairnia* of other authors, from which latter genus it is, according to Schultes, distinguished, " præter habitum, in calyce perfecte infero, plus minus subspiraliter convoluto, in antheris linearibus, incumbentibus, in capsulæ valvulis septiferis, et in seminibus compressis membrana brevi cinctis." We are not in a condition to verify the majority of these characters ; but we are satisfied that the whole of the Bromeliaceous family requires a careful revision, which is unfortunately difficult from such dried specimens as exist in our Herbarium ; and besides comparatively few species are found in cultivation, by no means so many as deserve to be. Of the present genus, only five species are taken up in Schultes, and the present is certainly not among them.

February 1st, 1853.

Descr. The principal *leaves* of our plant spring directly from the root; they are two to three feet long (the longest of them nearly three inches wide in the broadest part), and they gradually taper to a long point upwards, while below they lengthen into a narrow channelled base; glabrous, as is every part of the plant, full dark green, slightly waved at the edge, and furrowed above in the centre and keeled at the back, quite entire. From the centre of the plant the *peduncle* arises, two feet or more long, leafy below, the leaves like those from the root, but smaller, passing gradually into *bracteas*, which latter form an imbricated long cone-like *spike*, a span to a foot and more long, tapering to a point; these bracteas are erect, concave, purple-red, tapering into a slender, rather pungent, subulate, green point. The moderately large, pale, sulphur-coloured *flowers* are protruded much beyond the bracteas, and are sessile. *Calycine leaves* less than half the length of three unequal slightly-twisted *petals*, each of which has a bifid scale within at the base. *Stamens* about equal in length with the petals. *Anthers* yellow. *Ovary* free, pyramidal. *Style* slender, filiform, rather longer than the stamens. *Stigmas* three, spiral, twisted.

Fig. 1. Flower:—*natural size.* 2. Pistil:—*magnified.* 3. Petal seen from within:—*magnified.*

Fitch, del et lith.

J. Reeve, imp.

Tab. 4697.

GAULTHERIA FERRUGINEA.

Rusty Gaultheria.

Nat. Ord. Ericaceæ.—Decandria Monogynia.

Gen. Char. Calyx 5-lobus, demum ampliatus, plus minus baccatus et capsulam ambiens aut fovens. *Corolla* ovata, ore sæpe contracta, 5-dentata. *Stamina* 10, inclusa; *filamentis* sæpe villosis; *antheris* 4-aristatis nempe apice bifidis, *loculis* 2-aristatis rarissime muticis. *Stylus* filiformis. *Stigma* obtusum. *Squamæ* hypogynæ 10 distinctæ aut concretæ. *Capsula* depresso-globosa, 5-locularis, 5-sulcata, 5-valvis, *valvis* septiferis, loculicido-dehiscentibus. *Placentæ* axi adnatæ. *Semina* numerosa, parva, testa subreticulata.—Frutices aut rarius arbusculæ, *ex America, rarius ex India, orti.* Folia *alterna, sempervirentia, dentata aut integerrima.* Pedicelli *nunc axillares uniflori, nunc in racemum terminalem dispositi, bibracteolati.* Corollæ *albæ, roseæ, aut coccineæ. De Cand.*

Gaultheria *ferruginea;* ramulis rachibus pedicellisque ferrugineo-hirsutis glandulosoque pilosis, foliis breviter petiolatis ovatis mucrone calloso acutis supra lævibus subtus reticulatis parce pilosis serratis superioribus ciliatis, racemis terminalibus multibracteatis, bracteis coloratis dorso hirsutis demum glabratis, calycibus corollisque urceolatis hirsutis roseo-coccineis.

Gaultheria ferruginea. *Cham. et Schlecht. in Linnæa, v.* 1. *p.* 524. *De Cand. Prodr. v.* 7. *p.* 595.

Gaultheria tomentosa. *Spreng. Syst. Veget. Cur. post. p.* 159, *non Kunth.*

Andromeda hirsuta. *Arrab. Fl. Flum. v.* 4. *p.* 1. *t.* 99.

Raised at the Comely Bank Nursery, Edinburgh, from seeds sent by the late Mr. Gardner from the Organ Mountains, Brazil. It appears also in the sets of that zealous botanist's distributed collections. It is certainly variable in the shape of the leaves, and in the degree of hairiness, and in the deciduous nature of the hairs, in the presence or absence of glandular hairs, and variable in the length and direction of the racemes, and in the size of the bracteas. We have every reason to believe that Chamisso and Schlechtendal's and De Candolle's *G. ferruginea* is identical with this; but we fear a considerable number of the species from tropical America, given in De Candolle's third division of *Gaultheria*, "floribus racemosis, bracteis amplis sicco-

membranaceis, bracteolis in medio aut basi pedicelli," those numbered from 22 to 37 inclusive, will be found too closely allied to our plant. *G. bracteata*, figured at our Tab. 4461, a native of New Grenada and even Mexico, has many points in common with it; nor should we be surprised if it prove the same as to species, less hairy in the flowers and pedicels, and having much broader, and indeed truly cordate leaves. Our flowering specimens were in perfection in June. It is a truly handsome plant, but will probably be found difficult to keep in cultivation, as are so many lofty Andine plants.

Descr. A small branching *shrub*, the younger *branches*, and even the young leaves, the rachises of the racemes, and the pedicels, clothed generally with copious spreading rufous hairs, more or less mixed with glandular hairs. *Leaves* on very short petioles, almost sessile, ovate or oblong (as in our figure), but sometimes more tapering at the base, at other times almost cordate there, serrated at the margin, the apex tipped with a callous point, the old ones generally quite glabrous, the less mature ones ciliated; some are more or less hairy beneath, penninerved, subreticulated, most so beneath. *Racemes* terminal, and from the axils of the upper leaves, varying in length and in direction, usually spreading, the *pedicels* secund, all pointing downwards, rather long, the young ones covered with red imbricated bracteas, which are more distant as the raceme becomes more fully developed, and more or less clothed with deciduous hairs. *Calyx* ample, deeply cut into five moderately spreading hairy lobes. *Corolla* large for the size of the plant, urceolate; the *mouth* contracted, five-toothed. *Stamens* ten. *Filaments* subulate, clothed with spreading hairs. *Anthers* opening by pores at the apex, each cell bearing two erect awns, nearly as long as themselves. *Ovary* depresso-globose, five-lobed, free. *Style* included. *Stigma* obtuse.

Fig. 1. Pedicel with its two bracteoles near the base and flower. 2. Stamen. 3. Pistil;—*magnified*.

2.
1.

Tab. 4698.

ALLOSORUS cordatus.

Heart-leaved Allosorus.

Nat. Ord. Filices.—Cryptogamia Filices.

Gen. Char. Sori marginales, primum subrotundi discreti, citissime confluentes et tum lineares continui, margine frondis crenato-plicato revoluto et indusio obtecti. *Indusium* marginarium, lineare, continuum, membranaceo-scariosum, planum aut plicatum. *Capsulæ* sessiles v. subsessiles.—Rhizoma *subglobosum aut repens.* Frondes *fasciculatæ aut sparsæ, coriaceæ aut herbaceæ, pinnatim compositæ et supradecompositæ, fertiles pinnulis laciniisque multo angustioribus.* Venæ *pinnatæ, creberrimæ, internæ, tenuissimæ, uni-bi-tri-quadrifurcatæ, venulis parallelis apice clavulato libero terminatis.* Species *plurimæ intratropicæ, pauciores extratropicæ. Presl.*

Allosorus *cordatus;* caudice repente pallide paleaceo, fronde ovato-oblonga coriacea bipinnata rarius inferne tripinnata, pinnulis brevissime petiolulatis cordato-ovatis obtusis distincte venosis glanduloso-pubescentibus, stipite paleaceo rachibusque strictiusculis stramineis rachi communi valida.

Allosorus cordatus. *Presl, Tent. Pterid. p.* 153. *Kunze, in Linnæa, v.* 13. *p.* 135.

Pteris cordata. *Cavan. Præl.* 1801. *n.* 662. *Sw. Syn. Fil. p.* 106. *Willd. Sp. Pl. v.* 5. *p.* 392. *Presl, Reliq. Hænk. v.* 1. *p.* 57. *H. B. K. Nov. Gen. Am. v.* 1. *p.* 15.

Platyloma cordata. *J. Sm. in Bot. Mag. Comp. p.* 21.

Pellæa, *Fée* (but not his *P. cordata*, which is a Cape plant of Sieber).

With the figures and descriptions we propose from time to time to give of the Ferns, which are now such general favourites with cultivators, and so beautiful in their form and structure, it is not our intention to discuss the merits or otherwise of the several opinions that prevail respecting the limits of genera. Almost every writer on Ferns entertains his own peculiar views on this subject, and there is, with the more recent writers at least, a tendency to multiply genera on the ground of the slightest differences in the fructification or venation. Our object here will rather be to take a middle course; and our opinion has long been recorded that Presl's system, as given in his 'Tentamen Pteridographiæ,' is the best yet given, and that which is most generally

approved. His characters will therefore generally be adopted, with perhaps some slight modifications. We follow him in placing the plant in the genus *Allosorus*, though it is difficult to express in words how it differs from *Pteris;* and with him it includes plants differing much in habit.

Allosorus cordatus is a native of Mexico and New Grenada: nearly allied to *Allosorus flexuosus* (Kaulf., Pteris, *Link, et Hook. Ic. Pl. Rar.* t. 119, but that is a climbing plant), and still more so to *A. sagittatus*, Presl, in Schkuhr, Fil. Suppl. t. xxiv.; nor are we sure that the last is specifically distinct. Our figure is taken from fertile plants in a cool greenhouse of the Royal Garden, December, 1852, where they were reared from seed in 1842.

Descr. *Rhizoma* short, creeping, almost as thick as one's little finger, if we include the closely imbricated subulate scales with which it is densely clothed. *Stipites* aggregated, stout, from six inches to nearly a foot long, straw-coloured, clothed for a good part of the way from the base with numerous pale-coloured, scattered, subulate, chaffy *scales*. *Main rachis* straight, stout, and, as well as the slightly flexuose, slender *partial rachises*, of the same colour as the stipes. *Frond* almost a foot long when fully developed, oblong-ovate in circumscription, bipinnate, more rarely below tripinnate. *Pinnules* coriaceous, downy or more or less hairy, those on the upper side, towards the margin, glandular, ovato-cordate, the base unequal, nearly sessile, obtuse, generally all fertile, penniveined, the veins compact, two or three or more times forked. The margins much reflexed, and somewhat membranous at the edge, and thus constituting the continuous involucre covering the sori.

Fig. 1. Pinnule:—*magnified*. 2. Portion of the same.—*more magnified*.

1

F. Reeve, imp.

Tab. 4699.

NOTHOLÆNA sinuata.

Sinuated Notholena.

Nat. Ord. Filices.—Cryptogamia Filices.

Gen. Char. Sorus marginalis, linearis, continuus (nudus). *Indusium* nullum. *Capsulæ* breviter pedicellatæ. *Venæ* pinnatæ, creberrimæ, internæ, tenuissimæ, uni-bi-trifurcatæ, venulisque apice acuto desinentibus parallelæ.—Rhizoma *repens*. Frondes *sparsæ, coriaceæ, pinnatæ aut bipinnatæ, subtus aut paleis densissime imbricatis aut farina aut tomento obtectæ.* Venæ *tenuissimæ in fronde bene maceratæ tantum conspicuæ.* Species *intra- et extratropicæ, in hemisphæra australi et boreali degentes. Presl.*

Notholæna *sinuata;* rhizomate repente squamoso, stipite brevi rachique appresse squamoso-pilosis, fronde lineari-pinnata, pinnis brevi-petiolatis oblongo-ovatis cordatisve obtusis sinuatis supra albo-lanatis demum nudiusculis subtus dense appresse piloso-squamosis sericeis.

Nothochlæna sinuata. *Kaulf. Enum. Fil. p.* 135. *Spreng. Syst. Veget. v.* 4. *p.* 43. *Kunze, in Schkuhr, Fil. Suppl. v.* 1. *p.* 95. *t.* 45.

Acrostichum sinuatum. *Sw. Syn. Fil. p.* 14. *Willd. Sp. Pl. v.* 5. *p.* 120.

Gymnogramma sinuata. *Presl, Tent. Pterid. p.* 219.

Var. *lævis;* pinnules nearly entire.

Nothochlæna lævis. *Mertens et Galeotti, Fil. Mex. p.* 46.

This beautiful Fern is a native of Mexico and New Grenada, at elevations in the mountains of from 3000 to 6500 feet, and it is found to bear with the temperature of a cool greenhouse with a north aspect. It has also been recently found in an expedition from Western Texas to El Paso, in New Mexico, by Mr. Charles Wright, nos. 814 and 815 of his collection. Like so many other Ferns, it is liable to great variations in the form and size of the pinnules, generally broad-oblong and deeply sinuated, but not unfrequently cordate or even subhastate at the base, and sometimes with the margin continuous, not, or scarcely at all, sinuated: it then becomes the *N. lævis* of Mertens and Galeotti, and under that name has been received at Kew. The colour is a good deal tinged with rusty brown, the under side whiter and silky. The

species resembles some of the states of the West Indian *N. rufa;* but there the pinnules are quite woolly beneath, not scaly. Our var. *lævis* was received from M. Galeotti himself, but is only one of the many variations seen in the pinnules sometimes on different specimens, sometimes on one and the same: less sinuated at the margin, and more free from hairs above.

Descr. *Caudex*, or *rhizoma*, creeping, thicker than a swan's quill, and densely clothed with imbricating subulate scales. *Stipites* clustered, short, two to three inches long, stout, and, as well as the moderately stout, straight, rigid *rachis*, clothed with erect chaffy hairs. *Fronds* from a span to a foot long, linear-oblong, pinnated. *Pinnæ* alternate, the lower ones subopposite, shortly petiolate, often nearly an inch long, horizontally patent, thick, coriaceous, oblong or ovate or subcordate, rarely approaching to hastate, sometimes almost rhomboid, deeply sinuated and almost pinnatifid, the lobes rounded and obtuse, occasionally acute, sometimes the pinnules are quite entire or slightly sinuated, when it becomes the *N. lævis* of Galeotti: above clothed with nearly white deciduous short wool, which in the older specimens is sometimes entirely wanting: beneath very densely clothed with imbricated, glossy, appressed, subulate, membranaceous scales, generally white and silvery, as in no. 815 of Mr. C. Wright, sometimes rufous, as in no. 814 of the same excellent collector. *Sori* marginal, continuous, at first forming a dark narrow line or border among the scales, afterwards appearing to be intermixed with the scales over nearly the whole of the under side.

Fig. 1. Underside of a fertile pinnule:—*magnified.* Our right-hand figure represents a young plant of the more ordinary form; our left-hand one a specimen with more entire pinnules.

Fitch, del. et lith.

F. Reeve, imp

Tab. 4700.

CATTLEYA ELEGANS.

Elegant Cattleya.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. *Sepala* membranacea vel carnosa, patentia, æqualia. *Petala* sæpius majora. *Labellum* cucullatum, columnam involvens, trilobum vel indivisum. *Columna* clavata, elongata, semiteres, marginata, cum labello articulata. *Anthera* carnosa, 4-locularis, septorum marginibus membranaceis. *Pollinia* 4, caudiculis totidem replicatis.—Herbæ *epiphytæ (Americanæ) pseudobulbosæ.* Folia *solitaria vel bina, coriacea.* Flores *terminales speciosissimi, sæpe e spatha magna erumpentes. Lindl.*

Cattleya *elegans;* pseudobulbis teretibus cauliformibus elongatis, folio solitario lineari-oblongo coriaceo, sepalis oblongis acutis petalis lato-lanceolatis acutis, labelli trilobi lobis lateralibus elongatis obtusis columnam involventibus intermedio apice latissimo transverso subunguiculato vix emarginato undulato-crispata, basi læviusculo ("venis callisque deficientibus").

Cattleya elegans. "*Morren, Annales de Gand, p.* 185."

Received from Messrs. Backhouse, York Nursery, as a new species of *Cattleya*, from St. Catharine's, Brazil. It appears however to have been published by Professor Morren, at Ghent, under the name of *C. elegans*, which name we therefore here adopt, but without subscribing to the opinion that it is a truly distinct species. From various specimens we have received, both living and dried, from Mr. Spruce, of *Cattleya superba* (figured at our Tab. 4083), from the Amazon, it is very evident that that species varies extremely in the relative length and breadth of the leaves, as well as of the pseudo-bulbs; some of the leaves being elliptical, rotundate, while others were long and narrow, like the present. The colour in all such flowers we know to be exceedingly variable: here the side-lobes of the labellum are nearly white, with a deep purple tinge at the apices, while, on the other hand, the central lobe is a very deep and rich purple to the very base. We are thus reduced to the absence of the elevated lines, and of the two callosities at the very base of the middle lobe, as described in Mr. Backhouse's letter to us—for we regret that we

did not ourselves observe this in the living specimen—for a specific distinction, if such it prove to be.

In the October number of Lindley and Paxton's 'Flower Garden,' Plate 96 (1852), is another plant, sent by Messrs. Backhouse, under the name of "a new *Cattleya*," also from the island of St. Catharine's, Brazil, *Lælia purpurata* of Dr. Lindley, which, though much resembling a *Cattleya*, must not be confounded with the present species.

Descr. With the exception of the differences pointed out above, our description at Tab. 4083 will answer to the present plant.

2.

F. Reeve, imp.

Tab. 4701.

GALEANDRA Baueri; *var.* floribus luteis.

Bauer's Casquewort; yellow-flowered variety.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4610.)

Galeandra *Baueri;* caule simplici, foliis lanceolatis trinerviis, corymbo terminali pedunculato nutante foliis breviore, pedunculo squamis lineari-lanceolatis membranaceis vaginato, sepalis petalisque lineari-oblongis acutiusculis, labello maximo antico emarginato apiculato crenulato, calcare ovario æquali. *Lindl.*

Galeandra Baueri. *Lindl. Gen. et Spec. Orchid. p.* 186. *Bateman, Orchid. Mex. et Guatem. t.* 19. *Lindl. Bot. Reg.* 1840, *tab.* 49.

Var. floribus luteis, labello sanguineo-lineatim-maculato. (Tab. Nostr. 4701.)

The rarer and much larger-flowered *Galeandra Devoniana*, with a short blunt curved spur to the lip, is figured at our Tab. 4610. Of the present species we have figures in Mr. Bateman's splendid 'Orchidaceæ of Mexico and Guatemala,' and in the 'Botanical Register' as above quoted. Our plant, however, drawn from a fine specimen at Syon Gardens, differs from those, remarkably, in the colour of its flowers, which there have sepals and petals green, and the lip dull purple; here the flower is of a deep yellow, lip as well as the sepals and petals, the former marked with blood-coloured dotted lines. In other respects there is no difference worth noticing. According to Dr. Lindley this species has a widely extended locality in South America. It was originally discovered in French Guiana by the French collector Martin, and upon his specimens the genus was founded by Dr. Lindley. Subsequently it was found in Mexico by Mr. Ross, a collector for Mr. Barker, near Melacatapee; thus these two countries are considered to be its northern and southern limits. Hartweg appears also to have sent it to the Horticultural Society, probably from New Grenada, and in his plants the colour of the flowers was said to be much duller than those which had been received from Mexico.

March 1st, 1853.

Descr. Epiphytal. *Pseudo-bulbs* elongated, narrow, almost cylindrical, clustered, throwing out a few aerial whitish *roots*, and clothed with the inferior squamiform leaves: above they lengthen into a cylindrical *stem*, bearing several lanceolate, submembranaceous, sharply-acuminated, almost erect *leaves*, with three principal and some lesser nerves, dark green above, paler and slightly glaucous beneath. From the apex of the elongated stem-like pseudo-bulb the short *peduncle* appears, with its very drooping *raceme* of full yellow *flowers*, ten to fourteen upon the rachis. *Bracteas* among the flowers, small, subulato-membranaceous, larger on the peduncle; *sepals* and *petals* very patent, at length reflexed, lanceolate, nearly equal in size and shape. *Lip* infundibuliform (not unlike the large spurred sepal of *Impatiens*), very deep yellow at the base, paler at the extremity, and there marked with dotted blood-coloured lines; the side-lobes involute, and lapping one over the other, the middle lobe obtuse or retuse, much waved at the margin, mucronate at the point: the base of the lip runs out into a long nearly straight spur or tail, longer than the ovary. *Column* quite concealed within the lip, elongated, semiterete. *Anther* helmet-shaped, with a recurved point.

Fig. 1. Lip. 2. Column and anther:—*magnified*.

Fitch del et lith.

F. Reeve, imp.

Tab. 4702.

DIPLADENIA FLAVA.

Yellow-flowered Dipladenia.

Nat. Ord. Apocyneæ.—Pentandria Monogynia.

Gen. Char. Calyx quinquepartitus, lobis basi interne utrinque 1–2-glandulosis; glandulis nunc ligulatis vel squamosis. *Corolla* hypocraterimorpha vel tubo basi cylindrico et superne infundibuliformi, circa originem staminum hispida; fauce exappendiculata; lobis æstivatione sinistrorsum convolutis. *Antheræ* subsessiles, in superiore parte tubi vel medio aut sub media parte ubi tubus latior sit insertæ, sagittatæ, medio stigmati adhærentes, apice acuminatæ vel membrana acuta terminatæ. *Glandulæ* nectarii 2, cum ovariis alternantes, quinta glandula in *Echite* uno ex ovariis opposita deficiente. *Ovaria* 2, nectario sæpius longiora. *Stylus* 1. *Stigma* globulosum, inferne membrana reflexa umbraculiformi (an semper?) stipatum. *Follicula* et *semine* ut in *Echite*.—Frutices *scandentes, vel sæpius suffrutices, aut herbæ basi suffrutescentes, erectæ*, Americæ meridionalis *incolæ;* foliis *oppositis, integris, sæpe angustis, utrinque basi satis glandulisve pluribus loco stipularum stipatis*, pedicellis *axillaribus nunc racemum terminalem approximatis, floratione centripeta;* corollis *sæpius purpureis*.—Nomen ex διπλος, duplex; et αδην, glandula. *Alph. De Cand.*

Dipladenia *flava;* caule volubili terete juniore piloso, foliis ovatis ovalibusve brevi-petiolatis utrinque acutis submembranaceis junioribus pilosis, cyma terminali pedunculis bracteis pedicellis floribusque extus sericeo-pilosis, calycis lobis subulatis erectis, corollæ (flavæ) tubo inferne angusto cylindraceo demum ampliato.

I regret that at the time the drawing of this really handsome Apocyneous plant was made from specimens in the Royal Gardens, the glandular structure of the receptacle and of the inside of the calyx was neglected to be examined, and I am at a loss whether to refer the species to *Echites* or to *Dipladenia*. The general form of the flower seems to justify its being placed in the latter genus; if indeed the two be really distinct. The plant seems undoubtedly new, and was sent from Santa Martha, New Grenada, by Mr. Purdie, in 1845. It requires the heat of a stove for its successful cultivation. The flowers are nearly equal in size, and the same in colour, as our yellow-flowered species of *Allamanda*. Its blossoms with us are produced in May.

March 1st, 1853.

Descr. A climbing plant. *Stem* shrubby in the older portions, herbaceous and slender in the younger branches, and there clothed with rather long, very slender, spreading, silky hairs. *Leaves* opposite, on short footstalks, two to four lines long, ovate or oval, nearly elliptical, but rather acute at both ends, penni-nerved, glabrous in age, but the younger leaves are laxly silky. *Peduncle* terminal, hairy, bearing a lax *cyme* of four to six flowers; the *pedicels*, subulato-lanceolate *bracts*, *calyx*, and *corolline tube* almost silky with long soft copious hairs. *Pedicels* short. *Calyx* cut to the base into five, subulate, erect lobes, equal in length with the narrow base of the tube of the corolla. *Corolla* large, full yellow. The *tube* very hairy externally; the base contracted, cylindrical; above that the tube becomes suddenly enlarged. *Limb* ample, of five spreading, rounded, imbricating lobes. *Mouth* naked. *Stamens* included. *Anthers* yellow, narrow-subulate.

2.

F Reeve imp.

Tab. 4703.

ERIOGONUM COMPOSITUM.

Twice-umbelled Eriogonum.

Nat. Ord. Polygoneæ: Tribe Eriogoneæ.—Enneandria Monogyni.

Gen. Char. Involucrum tubulosum, campanulatum vel cyathiforme, vix angulatum, subæqualiter 6-dentatum, multiflorum. *Receptaculum* bracteolis intra pedicellos instructum. *Perianthia* exserta, profundep 6-fida. *Benth.*

Eriogonum (§ Umbellatum) *compositum;* foliis ad basin caulis approximatis longe petiolatis ovatis basi rotundatis cordatisve supra demum glabratis subtus dense albo-lanatis, pedunculo longissimo nudo apice breviter biumbellato, involucris breviter pedicellatis campanulatis multifloris. *Benth.*

Eriogonum compositum. *Dougl. MSS. Benth. in Bot. Reg. t.* 1774, *and in Linn. Trans. v.* 17. *p.* 410. *t.* 17. *f.* 10. (*flowers and fruit only*). *Hook. Fl. Bor. Am. v.* 2. *p.* 135.

This is a plant which may be considered of botanical interest, rather than as possessing any beauty to recommend it to cultivation. With the habit of an Umbelliferous plant, especially of some of the Cape species of *Hermas*, the individual flowers and fruit will be found to resemble a good deal those of *Polygoneæ*, to which natural family it belongs, but to a group or tribe chiefly distinguished by one or more flowers being included within a common monophyllous involucre, not much unlike that of *Euphorbia*. The genus, now found to be very numerous, is, with its allies (*Eriogoneæ*), confined to the extra-tropical regions of Western America, mainly California and the Oregon territory: some are found in Chili. The present species, one of the largest of the kind, was first detected by Douglas and Drummond on the Columbia or Oregon River and in New Albion. Our plants were raised from seeds sent from the Upper Pelouse River, between Spokan and Kooskooskie, by Mr. Burke, in the Royal Gardens of Kew, where they prove quite hardy, flowering in July, and requiring no particular care in the culture but a well-drained soil. Its large cordato-ovate leaves, dark above, white and woolly beneath, have rather a striking appearance, and

resemble a good deal those of *Eriogonum latifolium*, but the inflorescence is very different.

Descr. *Root* perennial, fusiform, rather thick. *Stems*, or rather *Scapes*, in our more luxuriant specimens, a foot and a half to two feet high, erect, nearly as thick as one's little-finger in the lower portion, terete, woolly. *Leaves* all radical, on long footstalks, sheathing at the base, ovate, cordate at the base, more or less woolly when young, but eventually becoming glabrous above and dark green, and white, as well as woolly, beneath. *Umbel* terminal, large, compound; general and partial umbels of many erecto-patent rays, the latter bearing crowded almost spherical umbellules of yellowish-white *flowers:* all of them bracteated. *Bracteas* numerous, linear-acuminate, resembling the involucres of an Umbelliferous plant. The true involucres here are narrow campanulate, six-toothed, hairy at the base and apex, three- to five-flowered. *Flowers* pedicellate, articulated below the six-sepaled perianth. *Stamens* nine. *Ovary* elongated, hairy, triquetrous. *Styles* three. *Stigmas* capitate.

Fig. 1. Involucre with its flowers. 2. Pistil :—*magnified.*

F.Reeve, imp.

Tab. 4704.

IMPATIENS Hookeriana.

Hooker's Balsam.

Nat. Ord. Balsamineæ.—Pentandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4615.)

Impatiens *Hookeriana;* erecta elata glabra, foliis longe petiolatis ovatis acuminatis serratis basi acutis, petiolis infra apicem biglandulosis, pedunculis axillaribus subterminalibusque flores superantibus pedicellos curvatos 3–6 umbellatim gerentibus, sepalis lateralibus oblongo-lanceolatis anteriore infundibuliformi in calcar subulatum valde elongatum curvatum flore amplissimo longius, petalorum lobis lato-obovatis undulatis.

Impatiens Hookeriana. *Arn. in Comp. to Bot. Mag. v.* 1. *p.* 324. *Walpers, Repert. Bot. Syst. v.* 1. *p.* 471.

Impatiens biglandulosa. *Moon, Cat. Ceyl. Pl. p.* 18?

Plants of this very lovely Balsam were raised from seeds sent under the present name from Ceylon by Mr. Thwaites, blossoming in the summer of 1852. They precisely accord with specimens sent many years before from about Rambodde and Maturatee, in the same island, by Mrs. General Walker, and which are the authority for the *I. Hookeriana* of Dr. Arnott in the work above quoted. That excellent botanist alludes to its affinity with the *I. grandis* of Heyne, and I must confess that an authentic specimen of that plant from the India Company (No. 4759 of Wallich's Cat.) exhibits no difference, as far as can be judged from the dried plant, except in the long spur becoming more suddenly slender and filiform, so that the upper or superior half is infundibuliform or dilated, the lower filiform. The doubt might be solved probably could I have access to the volume of the 'Madras Journal,' where, according to Walpers, at vol. ix. t. 4, the *I. grandis* is figured. The present has, I think, the largest flowers of any known species, pure white, with deep blood-coloured veins.

Descr. Our plants, flowering in the stove, were from two to

three feet high, erect, succulent, branched. The *leaves* large, almost exactly ovate, acuminate, serrated, penniveined, glabrous; *petioles* from one to four inches long, furnished with two oblong glands, at or near the apex. *Peduncle* axillary or subterminal, varying in length, generally longer than the leaves, bearing an umbel of four to six large white flowers, the lower portion richly marked with deep blood-coloured veins. The spur is large in proportion to the flower, longer than it, and very gradually tapering into its almost filiform extremity.

2.
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Tab. 4705.

PITCAIRNIA macrocalyx.

Large-calyxed Pitcairnia.

Nat. Ord. Bromeliaceæ.—Hexandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4241.)

Pitcairnia *macrocalyx;* foliis radicalibus longissimis lanceolatis acuminatissimis inferne longe attenuatis vaginantibus glaberrimis submembranaceis costatis inermibus caulinis sensim minoribus, caule elongato subfurfuraceo-lanato tereti, racemo laxiusculo, floribus (albis) patentibus demum reflexis, bracteis ovatis concavis acuminatis calycem longitudine æquantibus, pedicellis brevissimis, calycis (flavi) ampli sepalis ovatis acuminatis appresso-conniventibus, petalis oblongo-lineari-spathulatis subtortis basi esquamosis, ovario supero.

The present is one of the many South American novelties we are accustomed to receive from the Belgian Gardens, without name or particular locality*. In no work can we find the present species described: but its nearest ally is unquestionably *Pitcairnia suaveolens* of Lindley in the 'Botanical Register,' tab. 1069. That has the same large, white, somewhat twisted petals, and the same-coloured calyx; but is very different in the exceedingly lax raceme, the comparatively small and narrow segments to the calyx, inferior ovary, glabrous stem, and very narrow leaves. The present has the largest calyx of any species known to us, and it is altogether a fine-looking plant. With us it flowered in a warm stove in December, 1852.

Descr. *Root-leaves* very numerous, crowded, two to three feet long, elongato-lanceolate, tapering gradually to an exceedingly fine point, and below attenuated into a long convolute base; the texture submembranaceous, colour bright green, the margin quite entire, the surface glabrous and free from every kind of villous covering. *Stem* shorter than the leaves, terete, at the base

* The same plant, indeed, we have received from Mr. Linden under the name of "*Puya maidifolia*," from Mexico; but the character of that, as given in Walpers' 'Annales,' is much at variance with ours.

as thick as one's finger, between furfuraceous and woolly, leafy, the leaves remote, gradually smaller upwards till they pass into the bracteas of the inflorescence. *Raceme* a span long, of many large, spreading, at length reflexed *flowers*, rather lax, or moderately compact, bracteated. *Bracteas* membranaceous, ovate, much and finely acuminated, very concave, as long as the calyx and pedicel. *Pedicels* very short. *Calyx* large, almost an inch long, formed of three connivent yellow ovate-lanceolate *sepals*. *Petals* large, white, thrice as long as the calyx, slightly twisted and imbricated, linear-oblong, spathulate, the apex often reflexed, the sides more or less involute, the base within destitute of scale. *Stamens* six, as long as or a little longer than the petals. *Anthers* linear-oblong, yellow. *Ovary* almost entirely, if not quite superior, oblong-ovate with three furrows, tapering into the filiform white *style*, which equals the stamens in length. *Stigmas* three, green, spirally twisted.

Fig. 1. Petal. 2. Pistil:—*magnified*.

1.

2.

Fitch del et lith

F.Reeve, imp

Tab. 4706.

GYMNOSTACHYUM Ceylanicum.

Ceylon Gymnostachyum.

Nat. Ord. Acanthaceæ.—Diandria Monogynia.

Gen. Char. Calyx quinquepartitus, lacinia superiori subinde breviori. *Corolla* bilabiata, labio superiori angustiori bidentato, inferiori trifido. *Stamina* duo, tubo infra medium inserta, inclusa; sterilium rudimentum nullum. *Antheræ* biloculares, loculis æqualibus parallele contiguis altero aut utroque basi mucronatis, ubi unimucronatis ibi subinde antheræ uniloculares. *Stigma* bifidum, laciniis compressis. *Capsula* tetragona, a basi ad apicem bilocellata et seminigera, 12-sperma.—Herbæ *Indiæ orientalis.* Habitus *Eranthemi.* Caulis *humilis.* Racemus *spicæformis, gracilis, subsecundus, simplex vel bi-trifidus, e floribus distantibus brevissime pedicellatis.* Bracteæ *exiguæ, subulatæ, subopositæ, altera sterili paulo inferiori.* Bracteolæ *nullæ, in altera racemus similis e floribus fasciculato-ternis, lateralibus bibracteolatis. Nees.*

Gymnostachyum *Ceylanicum;* floribus in racemo fasciculatis, fasciculis distantibus, pedicellis lateralibus bibracteolatis, foliis oblongo-ovalibus obtusis basi in petiolum sensim attenuatis subtus tenuissime pubescentibus supra secus nervos albo-variegatis, antheris ovalibus basi unicalcaratis, caule calycibus corollisque glanduloso-pubescentibus.

Gymnostachyum Ceylanicum. *Arn. et Nees in De Cand. Prodr. v.* 11. *p.* 93.

The genus *Gymnostachyum* was established by Nees von Esenbeck in Wallich's 'Plantæ Asiaticæ Rariores,' upon a plant of Tavoy, *G. leptostachyum*, to which he added, in the 'Prodromus' of De Candolle, four other species, including *G. Ceylanicum*. Through Dr. Wight two other species are made known to us in the fourth volume of the 'Icones Plantarum Indiæ Orientalis,' *G. polyanthum*, t. 1494, and *G. alatum*, t. 1525, both from Coorg. *G. febrifugum* of Bentham, in Hohenacker, 'Plants of Canara,' n. 374, seems identical with the latter. The habit of the genus, Nees observes, is that of *Eranthemum:* to us it appears more allied to *Cryptophragmium*, next to which he has placed it; and so it would appear to have been considered by Mr. Thwaites, who sent the seeds of our plant from Ceylon to the Royal Gardens with the manuscript name of *Cryptophragmium acaule.*

March 1st, 1853.

Even in the dried state, though not noticed by Nees, the leaves of this plant exhibit the pretty variegated character, which alone would recommend it to the cultivator, of milk-white stains upon a dark green ground. Here the variegated portion follows the lines of the midrib and lateral veins. The flowers, though small, are pretty. The calyx is reddish; the corolla white, tipped with green and yellow. It flowers readily with us during the winter months. Our earliest knowledge of this plant was through Mrs. General Walker.

Descr. *Root* slender, creeping and throwing out fibres. *Stem* very short, downy, bearing four to six pairs of opposite *leaves*, which spread horizontally and are oval or obovate, obtuse, obscurely serrated, tapering into a rather long winged *footstalk*, dark green above, glabrous, penninerved; following the course of the midrib and primary lateral nerves is a broad whitish line, giving a prettily varied character to the leaf; beneath pale-coloured and downy. The apex of the short stem terminates in one to four, erect, unbranched (or branched only at the base), scapiform *peduncles*, together with the raceme from six inches to a foot long, terete, downy. *Flowers* in pseudo-verticils, on very short pubescenti-glandulose *pedicels*, bracteated at their base. *Calyx* of five, lanceolato-subulate, appressed, glandular, red, pubescent *sepals*. *Corolla* white, tipped with green and yellow. *Tube* elongated, glandularly pubescent, nearly cylindrical, bent down suddenly or geniculated below the middle, and dilated upwards. *Limb* unequally two-lipped; upper lip small, erect, two-lobed; lower lip more than twice as large, three-lobed; all the lobes ovate, acute. *Anthers* a little protruded beyond the mouth, acute, ovate. *Ovary* oblong, seated on a large fleshy disc, glandular. *Style* as long as the stamens. *Stigma* slightly bifid.

Fig. 1. Flower. 2. Pistil:—*magnified*.

Fitch del et lith.

F. Reeves, imp.

Tab. 4707.

CEREUS MacDonaldiæ.

Mrs. MacDonald's Great Night-flowering Cereus.

Nat. Ord. Cactaceæ.—Icosandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4417.)

Cereus *MacDonaldiæ;* ramis elongatissimis repentibus teretibus vel obscurissime angulatis subtuberculatis, tuberculis sparsis irregularibus parvis plerumque spina brevi fusca solitaria, floribus speciosissimis, calycis tubo elongato striato parce squamoso, squamis parvis villosis, sepalis numerosis reflexo-patentibus lineari-acuminatis aurantiaceis, petalis albis lanceolatis erecto-patentibus acuminatis, stylo staminibus longiore.

When our readers are informed that the flowering portion of the specimen here represented exhibits only half the natural dimensions, they may form some idea of the vast size of the flowers of this Night-blowing Cereus, for such it is, like its near relative the well-known *Cereus grandiflorus:* and certainly of the many floral spectacles that have gratified lovers of horticulture at the Royal Gardens of Kew, of late years, few have been more striking than this, to those who were privileged to see the blossoms in bud and fully expanded. The plant was received from Honduras through the favour of Mrs. General MacDonald, and planted at the back of the Cactus-house and trailed against the wall; it first showed symptoms of blossoming in July 1851. A casual observer might have passed the plant in this state, as an unusually large-flowered "Night-blowing Cereus;" but the slightest inspection of the stems and branches, and the different nature of the flower-bud, the patent petals, and above all the great size of the flowers, fourteen inches in diameter from tip to tip of the calyx-sepals, and fourteen inches long from the base of the calyx to the tip of the stigma, all indicate a most distinct species, and one which I have in vain endeavoured to find described in the Prince de Salm-Dyck or other authors on the Cactus-family.

Descr. So rapid is the growth of this plant that the cutting

sent from Honduras soon covered the back wall of a rather lofty greenhouse, with its repent and climbing and straggling *branches*. These vary somewhat in size in different parts of the plant, but are generally not thicker than the little-finger, dark green, terete, or with here and there very obtuse and not continuous angles. The surface is irregularly tuberculated, and in the areole of the tubercle is a short solitary (or sometimes two) inconspicuous black or dark brown spine. The *buds* and *flowers* are so large and so showy, that they would seem as if they could not belong to such meagre, half-starved, leafless branches. The *bud* measures fourteen inches long! Its base is swollen, bulbiform, clothed with densely imbricated hairy scales of a triangular form. The *tube* is long, cylindrical, dark glaucous-green, tinged with brown, striated, partially scaly, with small appressed scales fringed with brown hairs: the compacted imbricated calyx-sepals (including the petals) form an ovate acuminate-oblong head to the bud, orange, streaked with red. At night the *flower* expands, and fades before the evening, to a diameter of fourteen inches! yet the bursting extends no further down the flower than to the top of the long calycine tube. The *calyx* consists of numerous *sepals*, spreading and soon becoming flaccid and reflexed; they are linear, acute, the outer red, the inner orange; they form a distinct portion from the petals, a saucer-like exterior, if we may so say, not passing into the *petals*, quite differing in shape and colour. These latter form a crown within the highly coloured calyx, but not so regularly a cup-shaped one as in *C. grandiflorus;* the petals, lanceolate or spathulate in form, are not so compact as in that species, and their apices are more spreading. *Stamens* longer than the tube, forming a circle around the style; but the stamens are in numerous series below the style; only in one series above the style. *Style* thick, columnar, longer than the stamens. *Stigma* of many long, papillose, yellow rays.

Our original drawing of *Cereus MacDonaldiæ* is of an atlas-folio size, and the space is fully occupied by a small portion of the stem or branch, a side and a front view of a flower, and a fully formed bud. Had we confined our figure to a single flower in quarto, natural size, it could have been seen only from one point of view: but we regret to find that by reducing the scale one-half, it quite takes away from all idea of the magnificence of the original; and the assurance that the plant is *twice* that size does not convey the correct idea to the mind's eye.

2.

3.

1.

Fitch del et lith.

F. Reeve, imp.

Tab. 4708.

DENDROBIUM HETEROCARPUM.

Various-fruited Dendrobium.

Nat. Ord. Orchidaceæ.—Gynandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4352.)

Dendrobium *heterocarpum;* caulibus teretibus pendulis, foliis oblongis acutis planis, floribus geminatis ternatisque odoratis racemum spurium formantibus, sepalis lineari-oblongis acutis, petalis ovatis acutis sepalo supremo majoribus, labello unguiculato, limbo subpanduriformi holosericeo medio elongato acuminato plano. *Lindl.*

Dendrobium heterocarpum. *Wall. Cat. n.* 20. *Lindl. Gen. et Sp. Orchid. p.* 78. *Bot. Misc.* 1844. *p.* 49. *n.* 11.

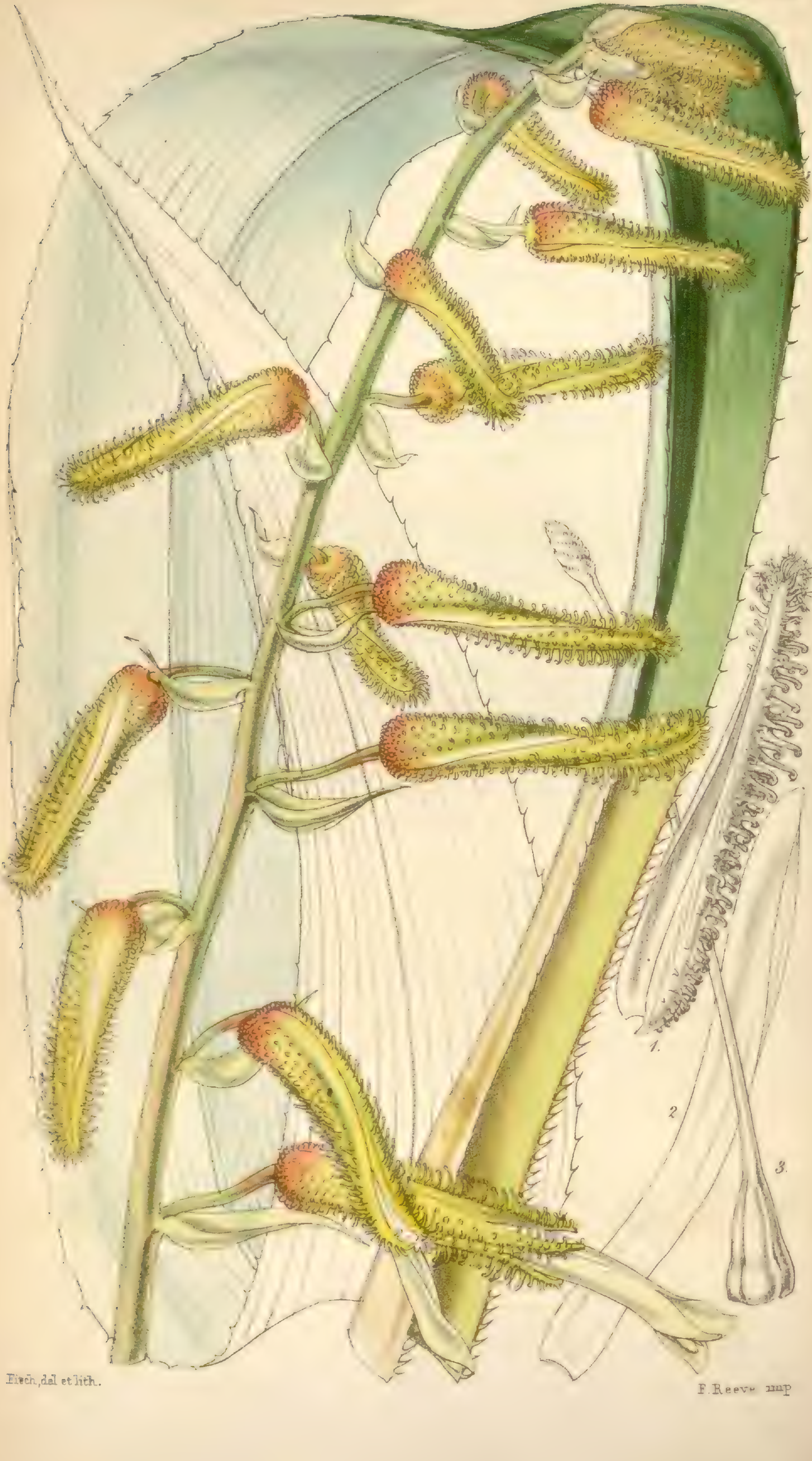
Dendrobium aureum, *Lindl. Gen. et Sp. Orchid. p.* 78; *and* Var. pallidum, *Lindl. Bot. Misc.* 1839. *t.* 20.

This handsome and fragrant *Dendrobium* was received at the Royal Gardens at Kew from Assam, through Mr. Simons, in 1852, and it flowered in our Orchideous Stove in January, 1853: the stems at that time, as is usual in the flowering season, being without leaves. Dr. Wallich detected it in Nepal; and we have the authority of Dr. Lindley for considering the *D. aureum* of that author (Gen. et Sp. Orchid., from Ceylon) a deep-flowered variety of this, and the *D. aureum*, var. *pallidum*, Lindl. Bot. Miscell. 1839, t. 20, as a more than usually pale-flowered variety of the same. Thus it is a native of woods in Ceylon, at the southern extremity of the Madras peninsula, as well as of the northern and eastern boundaries of Bengal. Much new light will be thrown upon the limits of species of Orchideous plants in Dr. Lindley's most laborious new work, the 'Folia Orchidacea,' and so important a task cannot be entrusted to better hands.

Descr. Epiphytal. From several horizontal, fleshy, cylindrical, wavy *roots*, spring a cluster of tereti-clavate, ribbed, jointed *stems*. *Leaves* oblong, acute, plane, subcoriaceous, deciduous when the stem has attained its full development and is ready to

bear flowers. *Peduncles* very short, almost none, lateral, from the apex of a joint, solitary or two or three, and bearing each one, sometimes two flowers, of a good size, and very fragrant. *Sepals* very patent, cream-colour, oblong, two lateral ones decurrent into a rather long, obtuse *spur*. *Petals* also patent, broader and more ovate than the sepals, otherwise resembling them, and of the same colour. *Lip* pendent, somewhat unguiculate and articulated on the prolonged base of the labellum, very obscurely three-lobed, lateral lobes obsolete, middle lobe very large, ovate or subpanduriform, and acuminated, the acumen much reflexed. The disc is cushioned and beautifully velvety; the colour, externally cream-colour, but within deep, almost golden yellow, streaked and veined with sanguineous lines. *Ovary* slender, clavate, greenish-white.

Fig. 1. Labellum. 2. Column, with its prolonged base. 3. Pollen-masses: —*magnified.*



Fitch, del et lith.

F. Reeve imp

Tab. 4709.

PITCAIRNIA echinata.

Echinated-flowered Pitcairnia.

Nat. Ord. Bromeliaceæ.—Hexandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4241.)

Pitcairnia *echinata*; foliis radicalibus elongatis lanceolatis acutissimis striatis subtus parce farinosis spinuloso-serratis inferne attenuatis semicylindraceis (magis spinosis), caule parce folioso longissimo pulverulento-tomentoso apice laxe racemoso-paniculato multifloro, sepalis setis mollibus flavo-virescentibus apice uncinato-glandulosis echinatis, petalis (albis) calycem fere duplo superantibus, staminibus styloque inclusis.

A well-marked species of *Pitcairnia*, received from Mr. Linden, under the name of "*Pourretia*," probably from Mexico, but of the locality we can only conjecture. In no work can I find any such plant described, either under *Pourretia* or *Pitcairnia*, or any allied genera, the limits of which we must confess are at present very ill-defined. I see no reason however for considering this other than a true *Pitcairnia*, as the genus is usually considered. It threw up its fine flowering-stems in January 1853, and continued a long time in blossom.

Descr. In a flowerless state this *plant* may be considered stemless; the *leaves* being all radical, as in the common Pine-apple, very long, two to three feet, elongato-lanceolate, very acuminate, carinate, striated, rather full green and glabrous above, beneath pale-coloured and floccoso-farinose, the margin is serrato-spinulose, but not very strongly so, except towards the much-attenuated, conduplicate and almost sheathing, yellow-brown base, where the spines are much longer, very numerous, and crowded, and curved upwards. As the flowering-season approaches, a stem is thrown up from the centre, which elongates, bearing few and gradually smaller leaves, till it forms the almost leafless base of the slightly compressed, terminal *raceme*, when the leaves insensibly become *bracteas*. The *scape* is everywhere pubescenti-

furfuraceous, terete. *Pedicels* about an inch long, supported by an ovate, acuminate, concave, membranaceous *bractea*, ciliated at the edge, and about equal to the pedicel in length. *Flowers* pendent, large. *Calyx* of three, long, slightly twisted, linear-oblong, attenuated, deeply canaliculate *sepals*, broader and red at the base, the rest full yellow, and everywhere clothed (except at the membranous overlapping edges) with soft, copious, spine-like, horizontal processes, uncinate at the apex: the shortest and least uncinate are at the base of the sepals, those at the extremity are tipped with a pencil of hairs. *Petals* white or cream-colour, more than half as long again as the sepals, slightly twisted, linear-subspathulate, slightly concave below the point, with no internal scale at the base. *Stamens* included, a little shorter than the petals. *Ovary* pyramidal, three-furrowed. *Style* as large as the stamens. *Stigmas* three, spirally twisted.

Fig. 1. Sepal. 2. Petals. 3. Pistil :—*slightly magnified.*

1410.

2.

Fitch, del et lith.

F. Reeve, imp.

Tab. 4710.

CROSSANDRA FLAVA.

Yellow-flowered Crossandra.

Nat. Ord. Acanthaceæ.—Didynamia Angiospermia.

Gen. Char. Calyx quinquepartitus, laciniis latis, interioribus brevioribus. *Corolla* tubo longo, limbo plano quinquefido superne ad tubum usque diviso. *Stamina* quatuor, didynama, in tubo latentia. *Antheræ* uniloculares, hirtæ, margine ciliatæ. *Capsula* compressa, bivalvis, a basi tetrasperma. *Dissepimentum* adnatum.—Frutices *Indiæ orientalis* (*Africæque occidentalis tropicæ*), foliis *subintegerrimis speciosis rubris* (*flavisve*). Spica *terminalis tetragona, bracteis oppositis latis herbaceis, propriis angustis membranaceis. Nees.*

Crossandra *flava;* caule brevi glaberrimo, foliis glabris obovato-lanceolatis undulatis sinuato-pinnatifidis versus apicem integerrimis obtusiusculis, inferioribus petiolatis, spica terminali exacte tetragona strobiliformi, bracteis exterioribus amplis rotundatis acute carinatis hirsutissimis venosis margine spinuloso-dentatis, corollis flavis.

A more intimate acquaintance with this plant than we at present possess, may bring to light characters, especially in the fruit, at variance with the genus to which we have referred it, *Crossandra;* a genus, we believe, hitherto supposed to be peculiarly of East Indian origin, and in no instance having, as here, yellow flowers.

Our plant is a native of tropical Western Africa, having been gathered in the fissures of rocks upon the Sugar-loaf Mountain, Sierra Leone, and sent to the Botanic Garden in Regent's Park, by Mr. Whitfield, on his late return from Africa. Mr. Marnock was so obliging as to forward the flowering specimen to us in January 1853.

Descr. The *plant* is shrubby, but it does not rise more than six to eight inches above the surface of the ground, and is unbranched. The *stem* terete, dark green, glabrous. *Leaves* approximate, spreading, large for the size of the plant, a span or more long, obovato-lanceolate, glabrous, dark green above, paler

beneath, undulated, rather obtuse, the lower half, or more than that, sinuato-pinnatifid; about the middle the lobes and sinuses are broad and shallow, towards the base of the leaf they are gradually smaller and deeper (profunde pinnatifida), with lobes rounded and entire. The superior leaves are sessile or nearly so, while the lower ones taper into a *stalk* nearly an inch long. *Spike* on a short, rounded, hairy, terete, erect, terminal *peduncle*, formed into a sharply four-sided kind of strobilus, by the numerous, large, opposite, submembranaceous, pale yellow-green, rounded, very hairy, veined, acutely keeled *bracteas*, the margin strongly dentato-spinulose. *Bracteoles* linear-lanceolate. *Calyx* green, hairy at the extremity, membranaceous, quite concealed by the bracteas. *Corollas* bright yellow, glabrous. *Tube* much exserted, slender, geniculated where the included *stamens* are inserted. *Limb* plane, of five segments; above the fissure reaches to the tube. *Ovary* oblong. *Style* glandularly hairy. *Stigma* dimidiate, fringed.

Fig. 1. Calyx and pistil. 2. Ovary :—*magnified*.

Fitch, del et lith.

F. Reeve, imp.

Tab. 4711.

DENDROBIUM TERETIFOLIUM.

Round-leaved Dendrobium.

Nat. Ord. Orchideæ.—Gynandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4352.)

Dendrobium *teretifolium;* caulibus repentibus, foliis filiformibus teretibus, perianthiis foliolis elongato-linearibus apice angustatis, labello tricarinato lobo intermedio lineari-lanceolato acuminato crispato. *Br.*

Dendrobium teretifolium. *Br. Prodr. Nov. Holl. p.* 333. *Lindl. Gen. et Sp. Orchid. p.* 91.

Although defined and published by Mr. Brown since 1810, this singular and well-marked species of *Dendrobium* does not appear to be anywhere figured, nor indeed anywhere recorded as being cultivated in England, except in the miscellaneous portion of Dr. Lindley's 'Botanical Register,' the volume for 1839, during which year it flowered with Messrs. Loddiges. It is a native of the vicinity of Port Jackson, New South Wales, and was lately sent to the Royal Gardens of Kew by Mr. Moore, of the Sydney Botanic Garden. Its leaves are long and terete, and the flowers, from the long, straggling, slender petals, and curved labellum, have almost as much the appearance of an insect as of a flower. Six other species of *Dendrobium* are recorded by Mr. Brown as natives of New Holland, and Mr. Allan Cunningham added seven others in an enumeration given in the 'Botanical Register,' above quoted, but of which three are marked doubtful as to genus, the flowers not having been seen, and one it is suggested may be a *Polystachya*. Cultivated on a piece of wood suspended from the beam of a cool stove, the present species flowered vigorously with us in December, 1852.

Descr. *Stems*, for they can hardly be considered pseudo-bulbs, clustered (creeping, according to Mr. Brown), sinuated, branched, brown, throwing out large fleshy-white sinuous *fibres:* the *branches* terminate in long, pendent, curved, terete, tapering,

hard, fleshy *leaves*, about the thickness of a goose-quill. *Panicle* lateral, from a branch of the stem, dichotomous, a span or more long, the ultimate branches very slender, filiform. *Flowers* white. *Sepals* linear-subulate, nearly uniform, at length reflexed, united below, and elongated into blunt *spur*, spotted with brown. *Petals* exceedingly long, projecting forward, linear-filiform, nearly straight, spotted near their base with minute dark-brown dots. *Lip* lanceolate, much acuminated, spirally reflexed, dotted with blood-colour; the side lobes very short, the middle lobe large and elongated, much crisped, the disc bearing three waved *lamellæ*. *Column* short, white, dotted with blood-colour. *Anther-case* hemispherical. *Pollen-masses* oval, cereaceous.

Fig. 1. Flower. 2. Labellum. 3. Pollen-masses. 4. Column and spur :— *magnified.*

Fitch del et lith

F. Reeve imp.

Tab. 4712.

CŒLIA macrostachya.

Long-spiked Cœlia.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. Sepala distincta, conniventia, subæqualia: lateralibus basi obliquis. *Petala* subæqualia. *Labellum* cum columna subparallelum, apice patulum, basi excavatum, indivisum. *Columna* nana, erecta, semiteres, basi paulo producta; stigmate rotundato, rostello inflexo. *Anthera* ovata, bilocularis. *Pollinia* 8, quaternatim materie pulverea in 2 paribus cohærentia. *Ovarium* 9-alatum.—Herbæ *epiphytæ pseudo-bulbosæ, basi squamatæ;* foliis *gramineis subplicatis*, scapo *radicali squamato*, bracteis *longissimis*. *Lindl.*

Cœlia *macrostachya;* pseudo-bulbis ovatis (vel subrotundis), foliis ensiformibus plicatis, racemo longissimo multifloro, bracteis lineari-lanceolatis acuminatissimis squamosis, sepalis rubris extus corrugatis, labello lanceolato basi bisaccato. *Lindl.*

Cœlia macrostachya. *Lindl. in Benth. Plantæ Hartwegianæ, p.* 92; *Bot. Reg.* 1842, *sub Tab.* 36.

Native of the Hacienda de la Llaguna, Mexico, and thence introduced to the Horticultural Society's Gardens through Mr. Hartweg. It is really a handsome plant, and well worthy a place in every Orchideous collection, flowering in August, when our fine spike was sent from the Belfast Garden by Mr. Ferguson, the able Curator. The pseudo-bulb and foliage, the latter in perfection at a more advanced period, were drawn from our own plant at Kew. The only other known species is the *Cœlia Bauerana*, a much smaller species, with white flowers, on which the genus was founded.

Descr. *Pseudo-bulb* large, almost globose, or only slightly compressed, glabrous, pale green, partially surrounded at the base with coarse, brown scales. *Leaves* a foot and more long, about three from the top of the pseudo-bulb, lanceolate, acuminate, membranaceous, striated and plicate, sheathing below. *Scape* arising from the base of the bulb, nearly a span high,

clothed with sheathing, large, ovate, involute, acute scales, almost concealing the scape. *Spike* or *raceme* itself nearly a span long, crowded with the very copious flowers and bracteas, and of a red rose colour. *Bracteas* as long as or longer than the flowers, membranaceous, narrow-lanceolate, much acuminated, withering. *Pedicels* short, twisted, two-edged. *Ovary* more or less winged at the angles. *Sepals* oblong, rather acute, concave, somewhat thick and firm, deep reddish flesh-colour, corrugated externally, the two anterior or inferior ones extending downward into a broad two-lobed *spur*. *Petals* as long as the sepals, nearly white, smooth, oblongo-obovate. *Labellum* of the same texture as the sepals, white, oblong, acute, reflexed at the apex, terminating below in a two-lobed or didymous very blunt *spur*. *Column* semiterete, decurrent below its attachment to the ovary, semiterete. *Anther* sunk into the *clinandrium*. *Pollen-masses* eight, attached to a rather small gland.

Fig. 1. Flower. 2. Flower with the sepals removed. 3. Pollen-masses.

F. Reeve, imp.

Tab. 4713.

SYPHOCAMPYLUS Orbignianus.

D'Orbigny's Syphocampylus.

Nat. Ord. Lobeliaceæ.—Pentandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4178.)

Syphocampylus *Orbignianus;* ramis (erectis?) teretibus herbaceis, foliis ternatis ovato-acuminatis breviter petiolatis inæqualiter acuteque dentatis superne glabriusculis subtus puberulis, pedicellis folio dimidio brevioribus, calyce corollaque velutinis, tubo calycis hemisphærico, lobis lineari-subulatis tubo triplo longioribus, corolla calyce multo longiore lobis linearibus, antheris 2 inferioribus barbatis. *DC.*

Syphocampylus Orbignianus. *De Cand. Prodr. v.* 7. *p.* 405. *Van Houtte.* "*Flore des Serres, p.* 544."

Our plant from which the accompanying figure was taken was derived from Mr. Van Houtte, and was received under the name here adopted. We find the *S. Orbignianus* of De Candolle to correspond well with this, except where the branches are described as erect. But as that author only appears to have known the plant from dried specimens in the Paris Museum, he might very well be deceived. Our fine plant, three feet and more long, has a peculiarly lax habit, so that the stem has to be supported by a stick, and the branches are quite pendent; and this does not appear to be the consequence of a weakened state of the plant. It is a native of Bolivia, where it was detected by D'Orbigny, after whom the species is named. It is treated as a stove-plant, and has handsome foliage and good-sized flowers, but by no means so highly coloured as many species of this extensive genus. It blossoms in the autumn and continues a long time in flower.

Descr. *Stem* three to four feet long, herbaceous, terete, hoary, weak, scarcely able to support itself. *Branches* lax, pendulous in our plant. *Leaves* rarely, and chiefly below, opposite, the rest ternate, rather shortly petiolate (*petioles* half to three-quarters of an inch long, thick in proportion to their length), ovate, acuminate, submembranaceous, flaccid, glabrous, greyish-green

above, beneath pubescent and hoary, the margin unequally and coarsely toothed, penniveined, veinlets often reticulated. The lower leaves are the largest and sometimes six inches long. *Peduncles* twice or thrice the length of the petioles, solitary in the axils of the leaves, single-flowered; but as they spring from the younger, clustered, terminal leaves, the collected flowers constitute almost a leafy *corymb*. *Flower* erect or nearly so, large. *Calyx-tube* downy, short, hemispherical; *limb* of six spreading or reflexed subulate teeth, much longer than the tube. *Corolla* two inches and a half long, yellowish, tinged on the back or superior side with red, glabrous: *tube* contracted above the dilated base, very long, gradually broader upwards, laterally compressed, slightly puberulous; *limb* of five, nearly oblong, more or less spreading segments, the two uppermost very obtuse, the three others acuminate, the mouth very oblique. *Style* quite concealed by the staminal tube. *Anthers* lead-coloured, combined, curved; the two lowermost ones bearded at the apex.

1.

2.

Fitch, del et lith.

F. Reeve. imp.

Tab. 4714.

CALANTHE gracilis.

Slender Calanthe.

Nat. Ord. Orchideæ.—Gynandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4541.)

Calanthe *gracilis;* scapis gracilibus multifloris basi alte vaginatis, labello basi saccato trilobo bilamellato, lobis lateralibus acutis abbreviatis intermedio subrotundo crispo indiviso. *Lindl.*

Calanthe gracilis. *Lindl. in Wall. Cat. n.* 7341. *Gen. et Sp. Orchid. p.* 251.

A very little known Orchideous plant, hitherto only characterized by Dr. Lindley, from specimens gathered in Silhet by Dr. Wallich. Recently it has been sent by Drs. Hooker and Thomson, from Khasya, to the Royal Gardens of Kew, where it flowered in a warm stove in September, 1852. Our specimens were submitted to Dr. Lindley, who observes that this will probably merge into the genus *Limatodes* of Blume; but he is uncertain whether the total absence of a spur in it is of any, at present unsuspected, importance. He further observes of this plant, as of other species of *Calanthe*, that when the flowers are wounded they become indigo-blue.

Descr. Terrestrial. *Stems* clustered, including the leaves, a foot and rather more long, lower part bare of leaves, thicker than a swan's quill, jointed, partially clothed with sheathing scales: joints short. *Leaves* confined to the upper portion of the stem, with rather long sheathing bases, lanceolate, the lowest ones broadly so, acuminate, tapering below, membranaceous, plicate and striated, mostly curved downwards. *Scape* or *peduncle* lateral, arising from a joint of the stem below the leaves, erect, more or less clothed with long, sheathing, brown scales or bracts. (The rest of our description is obligingly drawn up by Dr. Lindley from our recent flowering specimen.) "*Flowers* greenish-yellow. *Sepals* and *petals* equal, distinct, ovate, oblong, acute, somewhat recurved, the *petals* and dorsal *sepal* being directed

upwards, while the lateral sepals are directed downwards, so as to give the perianth a somewhat two-lipped appearance. *Lip* a pure, unspotted, pale, yellow-ochre colour, united to the column at the base in a very slight degree, narrowly oblong, convolute, three-lobed; the lateral lobes narrow, recurved, somewhat falcate, blunt, very much smaller than the middle lobe, which is broader than long, two-lobed, and excessively undulated or crisp; from the base of the lip towards the end run two raised lines, curving slightly away from each other, then approaching, and disappearing on the sides of a small cavity at the base of the middle lobe. Jointed *hairs* clothe the lower part of the hollow of the lip; simple, fragile, slightly stalked, free cells, sparkle upon the upper part between and about the lobes. The *column* is white, about half as long as the dorsal sepal, truncate, half-terete, channelled in the middle, and densely covered with a glittering deciduous wool, composed of jointed hairs in all respects like those of the lip. *Stigma* a transverse cleft in the anterior upper angle of the column. *Anther* vertical, membranous, eight-celled. *Pollen-masses* eight, adhering in two parcels to a common circular reddish-brown gland." *Lindl.*

Fig. 1. Flower from which the sepals and petals are removed. 2. Pollen-masses:—*magnified.*

1.

2.

Fitch del et lith.

F. Reeve, imp.

Tab. 4715.

PUYA Chilensis.

Chilian Puya.

Nat. Ord. Bromeliaceæ.—Hexandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4309.)

Puya *Chilensis;* caule elato erecto crasso cicatricato parce ramoso, ramis crassis tortuoso-deflexis, foliis 3–4-pedalibus e basi dilatata elongato-enisformibus rigidis glaucescentibus subtus minute albo-furfuraceis canaliculatis sensim acuminatissimis grosse spinosis spinis subulatis uncinatis, pedunculo terminali elongato columnari bracteato, spica ampla composita multibracteata multiflora, bracteis pubescenti-hirsutis, floribus plerisque sessilibus, sepalis tribus lanceolatis, petalis flavis calyce quadruplo majoribus oblongo-ovatis acutis erecto-patentibus, staminibus pistilloque corolla brevioribus.

Puya Chilensis. *Molina, Hist. Chil. p.* 170. *Schultes, Syst. Veget. v.* 7. *p.* 1235.

Puya suberosa. ***Molina, l. c. p.* 153.**

Pourretia coarctata. *Ruiz et Pav. Fl. Per. v.* 3. *p.* 34. *Syst. v.* 1. *p.* 81.

Pitcairnia coarctata. ***Pers. Syn. Pl. v.* 1. *p.* 344.**

Renealmia ramosa lutea. ***Feuill. v.* 3. *p.* 59. *t.* 39.**

This is one of the most striking of our Bromeliaceous plants, cultivated in a cool stove of the Royal Gardens of Kew. It was presented to us, a young plant, by the late A. B. Lambert, Esq., who had received it direct from North Chili, brought home by Mrs. Maria Graham, afterwards Lady Calcott. The stem, or caudex, has now attained a height of four feet, independent of the leaves, which are from three to four feet in length, spreading in all directions; the lower ones being reflexed. These leaves would render the plant admirably suited to the formation of fences, in the nature of the spinous margins; for the upper half of the leaf has all the spines directed forward towards the apex, presenting a great obstacle to intrusion of man or beast in that direction, whilst those lower down the leaf (longer and stronger too) have their curvature downwards, so that if man or animal is so bold as to make his way partially through, the decurved spines would prevent his retracing his steps with impunity.

May 1st, 1853.

The compound spike of flowers upon the column-like perfectly straight peduncle is remarkable for its size; the large full yellow (but inclining to green) flowers and the copious bracteas turning brown or black in age. We can only represent a small portion of the flowering head in our Plate of the natural size. This plant is called *Cardon* and *Puya* in Chili, where the soft substance of the stem is used for corks and bungs: the flowers yield a remedy for hernia, and the Indians use the spines of the leaves for fish-hooks.

Descr. *Stem*, or *caudex*, four feet high, flexuose, twelve inches in circumference, and nearly of the same size throughout: our plant bears two nearly opposite branches; these are nearly of the same size as the stem, horizontal or deflexed, and flexuose or rather tortuose, and the whole stem and branches are cicatrized with the scars of the fallen leaves, or scaly with the bases that yet remain of the leaves. *Leaves* in tufts at the apex of the main stem and branches, two to three, rarely four feet long, spreading in all directions; the lower ones recurved; all of them from a broad sheathing base, sword-shaped or linear-subulate, gradually tapering into a long narrow point, canaliculate, glaucous, minutely and compactly furfuraceous beneath, and almost white, the margins rather distantly beset with strong curved or uncinate subulate *spines;* those in the superior half of the leaf invariably pointing upwards: those in the lower half pointing downwards, except at the very base near the point of attachment, where they are irregular. From the apex of the main stem a column-like *peduncle* arises, quite straight, four feet and a half long, four inches in circumference, hoary with furfuraceous down, and beset with many deflexed, rather large, ovate, hoary, long-pointed bracts, eventually turning black, leafy below. *Spike* terminal, compound or subpaniculate, throwing out side branches, whose lower flowers are more or less pedicellate, many-flowered, copiously bracteated; *bracteas* ovate, acuminate, pale green, downy, black in age, at first imbricated over the flower-buds, then spreading. *Flowers* large, mostly sessile. *Sepals* three, erecto-appressed, lanceolate, more or less acuminate, greenish, downy externally. *Petals* slightly twisted, obovato-oblong, four times larger than the sepals, deep greenish or sulphur-yellow, with a depression, but no scale, at the base within. *Stamens* six, erect, shorter than the petals. *Anthers* oblong-sagittate, yellow. *Ovary* oblong-ovate, three-furrowed, free. *Style* rather thick, as long as the stamens. *Stigma* trifid, slightly twisted.

Fig. 1. Petal:—*nat. size.*

2.

Tab. 4716.

SANDERSONIA aurantiaca.

Golden-flowered Sandersonia.

Nat. Ord. Liliaceæ.—Hexandria Monogynia.

Gen. Char. *Perianthium* corollinum tubuloso-campanulatum, subglobosum, ore breviter sexfido; basi nectarifera et in cornubus vel calcaribus 6 brevibus incurvis extensa. *Stamina* 6, hypogyna, perianthio omnino inclusa. *Filamenta* subulato-filiformia. *Antheræ* oblongæ, filamentorum longitudinem æquantes, oblongo-obtusæ, dorso paulo infra medium insertæ, versatiles, inversæ, biloculares. *Ovarium* liberum, oblongo-ovale, longitudine trisulcatum, trigonum, triloculare; *loculis* pluriovulatis; *ovulis* obovatis biseriatim angulo interiori seu axili longitudinaliter insertis. *Fructus* . . .—Herba *Natalensis Africæ australis, erecta, simplex;* radice *tuberosa;* caule *tereti.* Folia *erecta, alterna, sessilia, lanceolata, anguste acuminata, striata, subdisticha, vel superiora subsecunda.* Pedicelli *axillares in foliis superioribus, solitarii, graciles, curvati, uniflori.* Flores *nutantes, aurantiaci, pedunculis subbreviores.*

Sandersonia *aurantiaca.*

During a very interesting journey, extending into the interior of South Africa, from Port Natal to Magalisberg, undertaken by John Sanderson, Esq., in 1851, that gentleman, who is the honorary secretary of the Horticultural Society of Natal, did not fail to make not only a very considerable Hortus Siccus of the plants he met with, but he made faithful drawings on the spot, of such species as were of peculiar interest, and collected roots and seeds. The latter were placed at the disposal of the Society's Garden at Natal, and a portion of them was liberally shared by Mr. M'Ken, who has charge of that garden, with us at Kew; while the specimens and drawings were obligingly presented to me by Mr. Sanderson. Among other novelties, which we hope by-and-by to notice elsewhere, was the remarkable plant here figured, of which indeed we possess tubers, already germinating, but of which the specimens and the drawing amply suffice for a faithful representation. It was discovered on "Field's Hill, near D'Urban, and on the Swartkop

Hill, near Pietermaritzborg, Natal, flowering 15th November, 1851." I must leave others to decide whether this plant should be placed among the *Liliaceæ* or *Smilaceæ*, or whether the two families are really distinct. It seems in habit almost to unite the Fritillary group, which it most resembles in general appearance, with the *Convallariæ*-section in *Smilaceæ*, with which it agrees in the union of the sepals into one piece. The genus is named in compliment to its discoverer.

Descr. *Tubers* small, somewhat globose, but two-lobed, and somewhat half-moon-shaped, throwing out a few fibres from below. *Stem* erect, a foot to a foot and a half high, simple, terete, herbaceous, not much thicker than a crow's-quill, leafy nearly from the base: lower *leaves* rather distant, upper ones approximate and almost crowded, all of them sessile, scarcely sheathing, but rather amplexicaul, lanceolate, much and narrowly acuminate, erect, subdistichous, upper ones almost secund, striated with parallel veins. From the axils of the superior leaves the flowers appear. *Peduncle* solitary, single-flowered, slender, almost capillary, about two inches long, curved downwards. *Flower* orange-coloured, large for the size of the plant, shorter than the peduncle, drooping, subgloboso-campanulate, with six shallow furrows, so as to be obtusely six-angled; the mouth somewhat contracted, six-toothed; the base has six nectariferous cavities, constituting externally so many short, but distinct, incurved spurs. *Stamens* included, six, perigynous. *Filaments* rather longer than the ovary, filiformi-subulate. *Anthers* broad, oblong, inserted near the middle of back, introrse, two-celled, cells opening by longitudinal fissures. *Ovary* oblong-oval, obtusely trigonous, having three deep longitudinal furrows. *Style* as long as the stamens. *Stigmas* three, nearly as long as the style.

Fig. 1. Stamens and pistil. 2. Ovary cut through transversely :—*magnified.*

Fitch, del et lith.

F. Reeve, imp.

Tab. 4717.

BRILLANTAISIA Owariensis.

Owarian Brillantaisia.

Nat. Ord. Acanthaceæ.—Diandria Monogynia.

Gen. Char. Calyx 5-partitus, laciniis linearibus, superiore longiore. *Corolla* ringens, tubo brevi crasso æquali; *labium superius* fornicato-falcatum, apice bifidum; *inferius* amplum, patentissimum, breviter trifidum, disco plicato-sulcatum. *Stamina* tubi apice inserta, *fertilia* duo longitudine labii superioris; *antheræ* lineares, longæ, biloculares, loculis parallelis muticis continuis. *Filamenta* sterilia duo fertilibus breviora, apice appendiculato, appendice transversa subulata basi obtuse calcarata. *Ovarium* oblongum, hirsutum, basi annulo cinctum. *Stylus* corollam æquans. *Stigma* inæqualiter bifidum. *Capsula* linearis, stricta, tetragona, bilocularis. *Semina* in quovis loculo 6–8 retinaculo sustenta.—Herba *Guineensis*, ramis *decumbentibus dein erectis sulcatis;* foliis *ovatis cordatisque dentatis in petiolum alte alatum decurrentibus.* Panicula *terminalis*, ramulis *trifloris.* Bracteæ *parvæ, lineares.* Flores *speciosi, purpurei*, Salviæ *habitu.*

Brillantaisia Owariensis. *Pal. de Beauv. Fl. d'Ow. et de Ben. v. 2. p. 68. t. 100. f. 2. Lindl. in Journ. of Hort. Soc. Lond. v. 8. p. 129.*

Belantheria Lamium. *Benth. in Niger Fl. p. 477.*

Belantheria Belvisiana. *Nees in De Cand. Prodr. v. 11. p. 97.*

Belantheria Vogeliana. *Benth. in Niger Fl. p. 477.*

Leucographis Lamium. *Nees in De Cand. Prodr. v. 11. p. 97.*

Leucographis Vogeliana. *Nees in De Cand. Prodr. v. 11. p. 97.*

By a strange oversight Professor Nees von Esenbeck overlooked the *Brillantaisia Owariensis* of Palisot de Beauvois; but finding an unnamed specimen of this plant in the Berlin Herbarium from M. de Beauvois's African collection, he described it in De Candolle's 'Prodromus' under the name of *Belantheria Belvisiana.* The *Acanthaceæ* of Dr. Vogel, gathered in the Niger Expedition, being submitted to Nees's examination, he there found two closely allied plants differing in the stamens (these having staminodia, while *Belantheria* was supposed to want them); to which he gave the names *Leucographis Lamium* and *L. Vogeliana*, which in the 'Niger Flora' Mr. Bentham rightly referred to *Brillantaisia.* These two differ chiefly in

the form of the leaves in the original specimens; but as our growing plant is furnished with the two kinds of leaves on the same individual, there can be no question that these are all one and the same plant. Mr. Moore supplied us with the beautiful specimen here figured, from the Chelsea Garden, where it was introduced from Sierra Leone by Mr. Whitfield. Its large sage-like flowers are in perfection in the stove in March.

Descr. A soft-stemmed, more or less hairy, *under-shrub*, "growing from three to four feet high. *Stems* quadrangular, with the sides furrowed, and the angles marked with an interrupted, longitudinal, pallid line; throwing out strong ascending branches near the base, and coarse *roots* from the lower stems." (*Mr. Moore.*)—*Leaves* of a large and coarse habit, variable in shape from broadly cordate to ovate or almost rhomboid: in the former case suddenly decurrent into a long winged petiole; in the two latter cases (and these are generally on the weaker shoots) gradually passing into it: the margin of the leaf, and often of the wing and petiole, coarsely and doubly serrated. *Panicles* terminal on the branches, large, showy, generally trichotomously divided. *Calyx* naked, deeply five-parted; the segments long, narrow-linear, spreading. *Corolla* dark full purple. *Tube* shorter than the calyx. *Limb* large, deeply two-lipped. *Upper lip* arching over the stamens, bifid at the apex: *lower lip* deflexed, nearly ovate, three-toothed at the apex, the disc with three longitudinal plaits. *Stamens:* two perfect, with large oblong-sagittate *anthers:* two others (*staminodia*) imperfect, hammer-shaped, slightly hairy. *Ovary* oblong, with a fleshy annular disc at the base, and very hairy. *Style* as long as the corolla; *stigma* unequally bifid. *Capsule* linear, an inch and a half long.

Fig. 1. Anthers. 2. Pistil:—*magnified.* 3. Capsule:—*nat. size.*

4.

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3

Fitch del et lith

F Reeve imp

Tab. 4718.

RHODODENDRON Dalhousiæ.

Lady Dalhousie's Rhododendron.

Nat. Ord. Ericeæ.—Decandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4336.)

Rhododendron *Dalhousiæ;* fruticosum (subsexpedale) plerumque epiphytum, foliis ellipticis rigidis subundulatis mucronato-acutis (junioribus hirsutis) supra glabris venis impressis subtus glaucescentibus sparse lepidotis, petiolis brevibus, floribus 3–5 terminalibus subumbellatis, calycis profunde 5-fidi lobis oblongis obtusis ciliatis, corollæ (albæ) amplæ subcampanulatæ limbo patente 5-lobo, lobis rotundatis, stam. 10, capsula oblonga 5-loculari.

Rhododendron Dalhousiæ. *Hook. fil. Sik. Rhod. t.* 1, 2. *Journ. of Hort. Soc. Lond. v.* 7. *pp.* 77 *and* 93.

Of all the Sikkim-Himalayan *Rhododendrons*, the present is perhaps the one which has excited the greatest interest, partly from the great size and beauty of the fragrant flowers, "almost resembling those of the Bourbon Lily (*Lilium candidum*)," and partly from the peculiar place of growth, generally in its native localities, like tropical *Orchideæ*, among moss, with Ferns and *Aroideæ*, upon the limbs of large trees. Hence doubts have been expressed, as used to be the case with other epiphytes, how far it would be possible to succeed in the cultivation of this shrub. The seeds have germinated in England as freely as any, and our young plants have made rapid progress in a cool moist house. No one, however, expected to see its blossoms (belonging to a straggling shrub which on its native hills attains a height of six or eight feet) produced in cultivation in so short a space of time as three years from the period of the importation of the seed. The earliest arrival of this seed was in the spring of 1850. Mr. John Laing, gardener at Dysart House (the Earl of Rosslyn's), Kirkaldy, North Britain, has the honour of having been the first to flower this noble plant, and in March, 1853, he communicated a specimen and drawing to me, together with the

following interesting particulars of his mode of treating the plant :—

"In January, 1852, I selected from our woods a vigorous plant of *Rhododendron Ponticum*, with a clean straight stem, about six feet high, removing all the lateral branches, and potting in an eight-inch pot. About the end of January it was placed in the stove, where it was soon after inarched with *R. Dalhousiæ*. As the young shoot of the latter began to harden, it was gradually cut through till separated, and the plant was removed to a cool greenhouse to rest. It very soon showed symptoms of making another growth, when it was transferred to the stove, to ripen its wood preparatory to its being again put into a cool house as the shoot ripened. Here it did not remain long before it made further progress, and again required the heat of the stove to ripen its third growth. About the end of October a flower-bud was formed, when water was gradually withheld until it was moderately dry at the roots, and the plant was removed to a cool greenhouse for the entire winter. About the third week in February, 1853, it was placed in the stove, and began to show colour on the 16th of this month. When the flowers first appeared they were of a greenish colour, which gradually changed into a yellow, which also has died away, until it is of the colour of the flower sent, and I have no doubt but ere the flower drop it will be nearly white (as represented in our plate). I may also state, that the plant has never been exposed out of doors: had it been so, the rusty colour on the upper surface of the leaf would very likely have been removed. The bark on the first shoot or growth is of a brown colour; but the other two growths are yet green, as shown in the sketch."

R. Dalhousiæ is a native of East Nepal, Sikkim, and Bhotan (Griffith Herb.), at elevations of from 6000 to 9000 feet, in humid forests.

Descr. "A straggling *shrub*, six to eight feet high; the *stems* clothed with a reddish, papery *bark;* the *branches* straggling, in distant whorls, each branch bearing its leaves and flowers only at the extremity." *Hook. fil.* Young *branches* stout, greenish. *Leaves* four to five inches long, spreading, rather rigid, subcoriaceous, elliptical or nearly so, obtuse with a sudden point or mucro, a little waved, hairy when young, according to Dr. Hooker; in our plant pubescent, with rusty deciduous down; fully-formed leaves glabrous, dark-green, and naked above; deeply impressed with the pinnated veins, beneath glaucescent, and dotted with minute rusty-coloured scales. *Petioles* short, rather thin. *Bracteas* very deciduous. *Flowers* terminal, three to five, subumbellate, very large, fragrant. *Pedunceles* one and a half to two inches long. *Calyx* deeply five-parted, the *lobes* ob-

long, obtuse. *Corolla* four and a half inches long, and as much in diameter across the mouth, subcampanulate, narrowed at the base, the *limb* spreading, of five large rounded obtuse *lobes*: the colour is changeable, perhaps pure white in the normal state; but the flower-bud is described as greenish; the flower, when open, yellow, gradually deepening to pale orange, which latter colour fades, leaving the corolla almost a pure white. In its native country it is often tinged with rose. *Stamens* much shorter than the corolla. *Anthers* when perfect large, brown (in our cultivated plant imperfect). *Filaments* slender. *Ovary* ovate. *Style* as long as the corolla. *Stigma* large, capitate, obscurely five-lobed.

Fig. 1. Stamen. 2. Calyx and pistil. 3. Section of ovary:—*magnified*. 4. Capsule:—*nat. size*.

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1.

Fitch del et lith

F Reeve imp.

Tab. 4719.

SKIMMIA Japonica.

Japan Skimmia.

Nat. Ord. Aurantiaceæ.—Tetrandria Monogynia.

Gen. Char. Polygama. *Calyx* hypogynus, persistens, quadrifidus. *Corolla* tetrapetala, decidua, petalis exunguiculatis. Fl. hermaphr. *Stamina* 4 vel 5, hypogyna, calycis laciniis opposita, *antheris* dorso affixis anticis. *Discus* quadrilobus, carnosus, ovarium cingens. *Ovarium* superum, quadriloculare, *ovulo* solitario pendulo anatropo in quovis loculo. *Stylus* simplex, cylindricus, *stigmate* crasso quadrilobo. Fl. masc. Omnia ut in hermaphroditis excepto ovario, cujus rudimentum parvum conicum. Fl. fœm. *Stamina* abortiva. *Drupa* supera, primum carnosa, demum sicca, tetrapyrena; *pyrenis* cartilagineis, pendulis, monospermis. *Semen* pendulum, albuminosum; *testa* membranacea tenui, *embryone* axili erecto, *cotyledonibus* crassis planis sibi impositis, *radicula* brevi cylindrica hilum spectante.—Frutices, ramis *adscendentibus*, cortice *fusco æque ac reliquæ plantæ partes oleo æthereo scatente*, foliis *simplicibus alternis petiolatis integerrimis coriaceis pellucide punctatis per triennium persistentibus exstipulatis*, floribus *post folia provenientibus polygamis in paniculas terminales thyrsoideas et subdichotomas dispositis albis v. ochroleucis fragrantibus*, drupa *supera carnosa tetrapyrena. Zucc.*

Skimmia *Japonica;* foliis alternis breviter petiolatis obovato-oblongis oblongisve utrinque attenuatis acutis integerrimis coriaceis pellucide glanduloso-punctatis glabris, paniculis terminalibus thyrsoideis multifloris, drupis globosis. *Zucc.*

Skimmia Japonica. *Thunb. Fl. Jap. p.* 62. *De Cand. Prodr. v.* 2. *p.* 18. *Sieb. et Zucc. Fl. Jap. v.* 1. *p.* 125. *t.* 68.

Ilex Skimmia. *Spreng. Syst. Veget. v.* 1. *p.* 495.

Sin San vulgo Mijami Skimmi. *Kæmpf. Amæn. Exot. p.* 779. *Banks, Ic. Kæmpf. t.* 5.

Native of Japan, on mountains about Nangasaki, where Kæmpfer erroneously describes it as a large tree; cultivated by the Chinese as well as Japanese, on account of the delicious scent of the flowers, compared to that of *Daphne odora*. Introduced by Mr. Fortune to Messrs. Standish and Noble's nursery, where it proves easy of cultivation, having borne two winters abroad unharmed, and having been flowered in a cool greenhouse. From that nursery our flowering specimen was sent

in March, 1853, but with the observation that some of the panicles were twice the size of that here given. It begins to flower while the plant is very small. "The evergreen and shining leaves," observes Siebold, "the clusters of numerous and graceful flowers, which all the summits of the branches produce from the beginning of spring, their perfume, and at the close of autumn the beautiful scarlet fruits, justify the rank which this maintains as a decorative plant." The natural affinities of it are somewhat doubtful. De Candolle placed it in *Celastrineæ*, and observes, "An *Ilici*, an *Euonymo*, an forsan *Rhamno* affine." Sprengel refers it to *Ilex*. Zuccarini says, "Proprius nobis *Aurantiaceis* connexum videtur, *Rutaceis* simul præsertim endocarpio cartilagineo in fructu maturo a sarcocarpio soluto, et cocci modo semen includente affine, etsi seminibus albuminosis ab utraque familia recedens." Dr. Wallich's *Limonia Laureola* is considered a second species of the genus (if it be not really the same).

Descr. A *shrub*, rarely, according to Siebold, exceeding the height of three or four feet, everywhere glabrous, and everywhere aromatic when bruised. *Branches* erecto-patent, terete, more or less warted. *Leaves* alternate, but here and there crowded so as to appear subverticillate; in our plant all oblong, acuminate, coriaceous, entire, tapering below into a short footstalk, penninerved, pellucido-punctate when held between the eye and the light, and minutely dotted beneath. *Panicle* terminal, thyrsoid, peduncled, broad-oblong, many-flowered. *Flowers* small, a good deal resembling those of some Hollies, and about the same size, with us mostly hermaphrodite. *Pedicels* with small, opposite, subulate bracts. *Calyx* with four or five rounded lobes. *Petals* five, oblong, spreading. *Stamens* about as long as the petals, with large anthers. *Ovary* subglobose. *Style* short, thick, four-lobed. *Berries* globose, bright scarlet.

Fig. 1. Portion of a leaf. 2. Flower. 3. Calyx and pistil. 4. Transverse section of an ovary:—*magnified*. 5 and 6. Berries:—*nat. size.*

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Tab. 4720.

EPISCIA MELITTIFOLIA.

Melittis-leaved Episcia.

Nat. Ord. Gesneriaceæ.—Didynamia Gymnospermia.

Gen. Char. Calyx liber, pentaphyllus seu quinquepartitus. *Corolla* infundibuliformis, *tubo* rectiusculo basi postice gibbo, *limbo* 5-lobo. *Stamina* 4, didynama, cum quinti postici rudimento e basi tubi. *Annulus* hypogynus in glandulam posticam tumens. *Stigma* bilamellatum. *Capsula* subglobosa, membranacea, bivalvis, placentis 2 parietalibus bilamellatis. *Semina* plurima, oblonga.—Herbæ *Americanæ molles, decumbentes, radicantes.* Folia *opposita, petiolata, venis anastomosantibus percursa.* Flores *axillares, solitarii vel cymosuli et bracteati. De Cand.*

Episcia *melittifolia ;* erecta, caule obtuse tetragono cano-pubescente, foliis ovato-ellipticis acutis pubescenti-hirsutulis grosse duplicato-crenatis reticulatim rugosis nitidis subtus pallidis, pedunculis axillaribus subpaniculatis pauciflоris folio brevioribus, sepalis corollæ tubum subæquantibus longe lanceolatis acuminatis subserratis, corollæ lobis integerrimis.

Episcia melittifolia. *Mart. Nov. Gen. et Sp. Braz. v.* 3. *p.* 42. *De Cand. Prodr. v.* 7. *p.* 547.

Besleria melittæfolia. *Linn. Sp. Pl. p.* 862. "*Schrank, Hort. Monac. t.* 44."

Besleria Melissæ Tragi folio. *Plum. Gen. Am. p.* 29. *t.* 5.

A really handsome *Gesneriaceous* plant, now, we believe, first cultivated in any European stove; sent by our friend Dr. Imray from Dominica, and flowering with us in March and April, 1853. It is probably not uncommon in the West Indian Islands; for De Candolle gives the Caribbean Islands, Martinique, Guadeloupe, and even French Guiana, as stations for it, and we possess dried specimens from St. Vincent. Plumier's outline figure is very characteristic; but, like so many of his representations, of his Ferns especially, on an exaggerated scale. The leaves are coarse and nettle-like, while the flowers exhibit a very rich colouring.

Descr. Our plant is about a foot high, branched only at the the base; *stem* stout, dark purple, obtusely quadrangular, clothed with delicate canescent down, especially upwards. *Leaves* upon

long *petioles*, large, nearly elliptical, obtuse at the base, acute at the apex, obscurely pubescenti-hirsute, the margin coarsely doubly crenate, dark-green, glossy, and wrinkled above with the sunk reticulated veins, pale beneath, the veins prominent. *Petioles* fleshy, thick, channelled above, the opposite pairs connate at the base of the petioles. From the axils of the upper leaves the *peduncles* are produced, somewhat panicled, few- rarely single-flowered. *Pedicels* one to two inches long. *Calyx* inclined upwards, as it were, from the tube of the corolla, and gibbous on the upper side at the base, purple-green, lax, deeply five-partite; *lobes* lanceolate, straight, subserrated. *Corolla* crimson. The *tube* longer than the calyx, curved downwards, with an obtuse spur at the base above; the *limb* of five, nearly equal, rounded, spreading *lobes*. *Stamens* four, didynamous, included. *Anthers* roundish oval, two-celled. *Ovary* ovate, silky, with a large bifid erect gland on one side, and a smaller one on the other. *Style* included. *Stigma* two-lobed.

Fig. 1. Stamens. 2. Pistil. 3. Section of ovary :—*magnified*.

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Fitch. del et lith.

F Reeve, imp.

Tab. 4721.

RHODODENDRON GLAUCUM.

Glaucous-leaved Rhododendron.

Nat. Ord. Ericeæ.—Decandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4336.)

Rhododendron *glaucum;* fruticulus erectus, ramis foliisque lepidotis, foliis brevi-petiolatis oblongo-ellipticis mucronato-acutis coriaceis subtus albo-glaucescentibus, umbellis plurifloris bracteatis, floribus mediocribus, calycis ampli 5-partiti lobis ovatis acutis subfoliaceis, corollæ extus glanduloso-punctatæ roseæ tubo campanulato intus filamentisque basi pubescente, limbi lobis patentibus rotundatis, stamina 10, ovario dense squamuloso basi nudo, capsula subglobosa calycem persistentem æquante squamulosa glauca 5-loculari.

Rhododendron glaucum. *Hook. fil. Sik. Rhod. t.* 17; *and in Journ. of Hort. Soc. of Lond. v. 7. pp.* 78 *and* 102.

In the month of March, 1853, our first plant of *Rhododendron glaucum*, about a foot high, showed flower-buds, and in the following month the blossoms were in perfection, as here represented. It is an extremely distinct species, reared from seeds sent home from the Sikkim Himalaya by Dr. Hooker in the autumn of 1850. It inhabits rocky depressed ridges of Sikkim and Bhotan, at elevations of from 10,000 to 12,000 feet above the level of the sea. Our flowering plant had the protection of a cool greenhouse; others in the open border thrive well, but have not yet blossomed. In its native country the flowering season is May. The leaves have often a scurfy character from copious small scales, less abundant in the oldest leaves, and fewer on the underside of the leaf than on the upper and darker. Similar peltate and orbicular scales exist on the branches, pedicels, and on the very large calyx. The corollas, rose-coloured and really handsome, are rather glandular than scaly. Dr. Hooker's figure is very beautiful and correct in the work above quoted. The whole plant has a strongly resinous smell.

June 1st, 1853.

Descr. A small *shrub*, not exceeding two feet in height on its native hills, erect. *Branches* reddish-brown, scurfy or scaly. *Leaves* three to four inches long, oblong-elliptical, rarely approaching to lanceolate, acute, almost mucronate, subcoriaceous, the margin recurved, upper surface dark opake-green, more or less dotted with white scales, the younger ones especially very glaucous, and almost white beneath, lepidote with rather few scattered dark-coloured scales; *petioles* about four lines long. *Umbel* terminal, five- to eight-flowered, with numerous pale-green, concave, broad, ovate bracteas, which before the opening of the flowers form a sort of involucre, and usually fall away when the expansion is perfect. *Pedicels* scarcely so long as the flower, scaly. *Calyx* spreading, campanulate, pale-green, large, foliaceous, cut into five, deep, ovate, acute, veined *lobes*, externally lepidote. *Corolla* in bud deep red, afterwards full rose-colour, externally glanduloso-punctate; *tube* campanulate, downy or woolly at the base within; *limb* spreading, about one and a half inch across; the *lobes* broad, obtuse. *Ovary* very scaly, naked at the base. *Stamens* ten; *filaments* as long as the corolla, downy below. *Anthers* oval, opening by two pores above. *Style* a little longer than the stamens, thickened upwards. *Stigma* large, depressed, capitate, with five points.

Fig. 1. Stamen. 2. Calyx and pistil. 3. Transverse section of the pistil:—*magnified.*

Fitch del et lith

F Reeve, imp

Tab. 4722.

XANTHORRHŒA Hastile.

Spear Yellow-Gum.

Nat. Ord. Asphodeleæ.—Hexandria Monogynia.

Gen. Char. Perianthium 6-partitum, subæquale, persistens: *foliola interiora* concava, basi conniventia. *Stamina* 6, imo calyci inserta. *Filamenta* linearia, glabra, exserta. *Antheræ* versatiles. *Ovarium* loculis polyspermis. *Stylus* cylindraceus, trisulcus. *Stigma* simplex. *Capsula* ovata, lignea, 3-locularis, 3-valvis, valvis medio septiferis. *Semina* 1–2, compressa, umbilico basilari nudo. *Embryo* transversus.—Plantæ *habitu proprio et ubi abundantes characterem regioni peculiarem imponentes.* Caudex *sæpe resiniferus, nunc elevatus et sæpe divisus, crassus, nunc brevissimus v. subnullus.* Folia *longissima, angusta, graminea, linearia, subtriquetra v. ancipitia, confertissima, undique patula, apicibus recurvis, basibus dilatatis semivaginantibus.* Scapus *terminalis, simplicissimus, teres, sæpe longissimus.* Spica *terminalis, cylindracea, amentiformis, scapum quandoque æquans.* Flores *sessiles, confertissimi, albi, parvi, multibracteati.* Bracteæ *numero indeterminatæ, imbricatæ, unguiculatæ, interiores sensim minores.* Capsulæ *exsertæ, obtuse triquetræ, nitidæ, cartilagineo-ligneæ.* Semina *atra,* albumine *carnoso, molli. Br.*

Xanthorrhœa *Hastile;* caudice brevissimo, foliis lineari-subulatis longissimis compresso-triquetris subancipitibus supra planis linea media elevata, margine scaberulis, scapo longissimo amentum cylindraceum pedale vel sesquipedale aliquoties superante, bracteis foliolisque exterioribus perianthii apice tomentosis.

Xanthorrhœa Hastile. *Brown, Prodr. Fl. Nov. Holl. p.* 288. *Ait. Hort. Kew. ed. v.* 2. *p.* 271. *Smith in Rees' Cycl. n.* 3. *Kunth, Enum. Plant. v.* 4. *p.* 649.

Xanthorrhœa resinosa. *Pers. Syn. Plant. v.* 1. *p.* 370.

Yellow Resin-tree. *White, Voy. N. S. Wales, p.* 235. *tab. at p.* 249.

The Gum-trees, or Grass Gum-trees as they are sometimes called, of Australia, are among the most remarkable vegetable features of the colony. An excellent group of them is represented in Mr. Backhouse's 'Narrative of a Missionary Journey in New South Wales,' tab. at p. 171. That peculiar species however is considered to be the *X. arborea*, having an arborescent and branched stem. The perennial trunks are very liable to be blackened by the fires of the natives in burning the adjacent grass of the plains, and all the species probably yield a resinous gum, which, when strewed on hot coals, emits a fragrant smoke, "smelling like a mixture of balsam of Tolu and benzoin;" and

now used, we are told, as incense in the Roman Catholic churches of the colony. The "Yellow Resin" is the product of *X. Hastile*, to which we refer our plant. This species is said to have been introduced in 1803, by Philip Gidley King, Esq., to the Royal Gardens, where it probably soon died. Other specimens and other species seem to have been imported, and shared the same fate. At length we received a healthy plant from Port Jackson, in 1845, through Mr. Kidd, then placed in temporary charge of the Botanic Garden of Sydney. This blossomed with us in the spring of 1853, while still, we apprehend, comparatively a small plant, the whole height, including the scape and spike, being barely six feet. The scape alone in its native country attains a height of eighteen or twenty feet, and is used by the natives for making spears (whence the specific name *Hastile*) and fish-gigs, being pointed with the teeth of fish or other animals.

Descr. *Caudex* short, with us about six inches in height and eight in diameter, simple, clothed with the remains of fallen leaves, and bearing at the top a crown of dense, rather glaucous, grassy, crowded foliage. These *leaves* are three feet or more in length, very thickly inserted, and, from a very broad almost membranous base, become suddenly linear-subulate, recurved, harsh, and rigid, tapering to a very fine acuminated point; they are longitudinally subtriangular, but thin and flat at the sides, so as to be somewhat ancipitate, the upper or inner face flat, and having an elevated longitudinal line: the edges are diaphanous and scaberulous. *Scape* terminal, solitary, eighteen to twenty feet high (with us only five and a half), terete, firm, quite erect, bearing at the apex a dark-brown downy *spike* (very much resembling the head of the greater Reed-mace), from nine inches to a foot and a foot and a half long, cylindrical, obtuse, many times shorter than the scape. This spike consists of a vast quantity of scaly *bracts*, linear, dilated at the apex, and there clothed with fuscous down, which give the colour to the spike. The *flowers* are copious amongst these bracts, but arranged spirally around the axis, sessile, small. *Perianth* in two series: outer of three erect *sepals* exactly resembling the bracts, and equally downy at the apex; the inner of three oblong, emarginate and obscurely serrated, erect, white, membranaceous ones. *Stamens* six, much exserted. *Filaments* long, subulate, spreading above the sepals, and forming white stars upon the dark-brown spike. *Anthers* oblong-globose, nearly white. *Ovary* obovate. *Style* cylindrical. *Stigma* obtuse.

Fig. 1. Flower, accompanied by two bracteas. 2. Inner sepal. 3. Stamen. 4. Pistil. 5. Transverse section of the ovary. 6. Small portion of the leaf:—*all magnified.*

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Tab. 4723.

LITTONIA modesta.

Unassuming Littonia.

Nat. Ord. Uvularieæ.—Hexandria Monogynia.

Gen. Char. Perianthium subcampanulatum, hexsepalum, *sepalis* oblongo-acuminatis subcarinatis concavis erecto-patentibus intus basi poro nectarifero utrinque squamula parva marginata. *Stamina* 6, hypogyna, libera, perianthio breviora. *Filamenta* subulata, glabra. *Antheræ* oblongo-sagittatæ, obtusæ, basifixæ, biloculares, *loculis* lateraliter rima longitudinali dehiscentes. *Connectivum* amplum. *Ovarium* ovale, longitudinaliter trisulcatum, lobis linea media longitudinali depressa notatis, 3-loculare, pluriovulatum, *ovulis* biseriatim angulo interiori loculi affixis. *Stylus* longitudine fere ovarii, erectus, strictus, apice profunde trifidus, lobis reflexis; *stigmata* obtusa, pubescentia. Fructus . . . .—Herba *scandens Natalensis*. Radix *tuberosa*, tubere *inferne bilobo*, lobo *unico tuber novellum prodeunte*. Caulis *scandens, simplex, teres, herbaceus, foliosus*. Folia inferiora *ternatim verticillata, superiora opposita, omnia lanceolata, longe tenuissime acuminata, glabra, parallelim venosa, striata, apice cirrhifera*. Pedunculi *breves, axillares, solitarii, uniflori*. Flores *nutantes, aurantiaci*.

Littonia *modesta*.

Two numbers back (Tab. 4716) we had the pleasure of figuring a new Liliaceous plant from Natal, and naming it after its discoverer, John Sanderson, Esq., of that colony. The same gentleman detected in that colony our present plant, of which tubers were sent to the Natal Garden, and thence by Mr. M'Ken to us, as a new species of *Methonica** (Gloriosa, *Linn.*). True

* We readily concur in Dr. Wight's views, expressed in the last volume of his admirable 'Icones Plantarum Indiæ Orientalis,' vol. vi. p. 25, in referring *Methonica* and its allies, including *Sandersonia*, at Tab. 4716, to *Uvularieæ*, rather than to *Liliaceæ*. We wish we could say as much in favour of his views respecting the preference given to *Gloriosa*, Linn., over *Methonica*, Herm. But here it is only justice to Dr. Wallich to copy a memorandum, with which he has just favoured us, on the subject. "In my humble judgment," he writes, "our friend Wight is quite wrong in regard to *Methonica* and *Gloriosa* (see his long description in Icones Plant. Ind. Orient. vol. vi. p. 23). He says, 'Turning now to Hermann for his definition of the genus, on which only he is entitled to claim the paternity of the name, all we find is '*Methonica Malabarorum*'—*Methonica* of the Malabars

the stem and foliage are altogether those of that genus (a native of South Africa); but the flowers are extremely different, and we have little hesitation in considering the plant to form a new genus, *Littonia*,—a tribute to the memory of the late Dr. Samuel Litton, for twenty-one years Professor of Botany in the Royal Dublin Society, a deeply learned and amiable man, and a popular lecturer. The modest appearance of this plant, in contrast with its very near ally the "*Gloriosa superba*," Linn., may further serve to indicate his unassuming and retiring disposition, which, as has been recorded by the Council of the Royal Dublin Society, "prevented his taking that rank in general society to which his acquirements entitled him." The shape of the sepals, their direction, the scaly nectary, the stamens, the style, and stigmas, all tend to keep this genus distinct from *Methonica*. It flowered in the stove of the Royal Gardens in April, 1853, within three months after the tubers were planted.

Descr. The tubers are exceedingly curious. An old fully-formed one is larger than a Spanish Chestnut, and somewhat of the same shape, but having two projecting lobes or horns pointing downwards, with a few capillary fibres in the centre beneath. When this is planted, a new white obconical tuber is formed from the apex of one of these lobes, and which, if I may so say, is inverted, the broad upper side being downwards, giving rise to the stem, while the narrow apex throws out a

There is no definition; the citation therefore, in a controversial discussion, is, to say the least, inappropriate, being without weight or argument.' Now, so far from Hermann giving no definition, there is a *very good description* of his *Methonica Malabarorum* in his Hort. Academ. Lugd. Batav. p. 688, and a very good figure (tab. or rather page 689) annexed, which is similarly inscribed, '*Methonica Malabarorum*.' More than that, the peculiar shape of the root of the plant is well figured, and also described in these words: 'formâ accionem*, seu literam Γ, ex duobus quasi brachiis cohærentem, referente, etc.' Now so remarkable is this shape of the root, that the Sanskrita and the Bengali names of the plant are derived from it: 'Langulisha,' Sanskr.; 'Ishor-Langula,' Beng.; meaning the handle or governor of a plough. In fact, the root resembles quite that perfection of primitive simplicity, a native plough. Finally, Hermann quotes as a synonym, 'Lilium zeylanicum superbum, vulgo.' Now, was ever authority for a name more perfect or incontrovertible? *Methonica* ought to be adopted, and not that barbarissimum nomen, *Gloriosa*; and the specific name ought to be *Malabarorum*, and not *superba*. (I should not be surprised that the Malabar derivation of Hermann will be verified: I will make inquiries.) Is not the same author's *Adhatoda* in the identical work, and only a few pages previously, p. 642. f. 643, adopted as a specific name—now a generic one? Tournefort, in Mémoires de l'Acad. Royale des Sciences (called 'A. G.,' *i. e.* Acta Gallica) pour 1707, p. 86. tab. 7. fig. (5) excellent (the curious root again separately represented),—Ray, Hist. vol. ii. p. 1915,—Boerh. Index alter, vol. ii. p. 134: all the above have *Methonica Malabarorum* for the name of our plant. Finally, Linneus in Hortus Cliffort. p. 121, quotes *Methonica Malabarorum*, Herm., Tournef., Boerhaave, Dill. gen., Commelyn Fl. et Plukenet."

* I cannot make out what "accio" means; none of my Latin or Greek dictionaries give me any clue.

quantity of long capillary fibres. Eventually, when the old tuber is thrown off, the new one assumes its proper direction in the earth, and takes the place of the old tuber. *Stem* terete, glabrous, herbaceous, simple, two to three feet long, climbing. *Leaves* broad-lanceolate, glabrous, spreading or reflexed, sessile, striated with parallel nerves, much and very narrowly attenuated into a filiform *tendril*, which it uses for support; lower leaves ternately verticillate, upper ones smaller and alternate. *Peduncles* rather short, axillary, solitary, bearing a single, drooping, orange-coloured *flower*. *Sepals* six, lanceolate, erecto-patent (so that the perianth is subcampanulate), oblong, shortly but sharply acuminate, moderately concave, keeled at the back; within at the base having a small oblong nectariferous cavity, partially closed by a little ciliated scale on each side. *Stamens* six, free, erect, hypogynous, as long as the pistil, much shorter than the sepals. *Filament* subulate. *Anther* oblong, subsagittate, fixed by its base to the filament. *Connectivum* large, separating the cells, which are quite marginal, and open laterally by a longitudinal fissure. *Ovary* oval, with three furrows and three obtuse lobes, with a depressed line down each lobe, three-celled, *cells* many-seeded: the *seeds* attached, in two longitudinal rows, to the inner angle of the cell. *Style* about as long as the ovary, divided above into three rather long recurved segments or branches, each tipped with an obtuse downy *stigma*.

Fig. 1. Old and new tuber:—*nat. size.* 2. Sepal and nectary. 3. One of the scales from the nectary. 4. Stamen. 5. Pistil. 6. Ovary cut through transversely:—*magnified.*

Fitch del et lith.

F. Reeve, imp.

Tab. 4724.

LOPEZIA MACROPHYLLA.

Large-leaved Lopezia.

Nat. Ord. Onagrarieæ.—Monandria Monogynia.

Gen. Char. Calycis limbus 4-partitus, deciduus. *Petala* 4, irregularia. *Stamina* 2, uno fertili antherifero, altero opposito sterili petaliformi a petalis veris sæpius discolore. *Stigma* capitatum. *Capsula* nuda, subglobosa, 4-locularis, apice tantum loculicide quadrivalvis; *valvis* placentæ centrali dissepimentis adnatis. *Semina* plurima, minima.—Herbæ *erectæ aut* suffrutices. Folia *dentata, alterna, rarius opposita.* Racemi *caulem ramosque terminantes.* Flores *pedicellati, purpurei. DC.*

Lopezia *macrophylla;* fruticosa, glabriuscula, foliis petiolatis ellipticis oblongisve acuminatis denticulatis basi angustatis, sepalis erecto-patentibus lanceolatis (rubris) corollam æquantibus, petalis duobus breviter unguiculatis. *Benth.*

Lopezia macrophylla. *Benth. in Plant. Hartweg. p.* 83. *n.* 577. *Lindl. in Journ. of Hort. Soc. v.* 7. *p.* 278. *Planch. in "Flore des Serres, v.* 7. *t.* 23. *p.* 177." *Paxt. et Lindl. Flower Garden, v.* 3. *p.* 145 *cum Ic. xylogr. n.* 302. (*apparently copied from the 'Flore des Serres.'*)

Lopezia grandiflora. *Flora od. Bot. Zeit.* 1832, *Beitr. p.* 101.

Jehlia fuchsioides. *Hort. Germ.*

Received from Mr. Van Houtte under the name of *Jehlia fuchsioides;* and this is given by Dr. Lindley and Mr. Paxton as a synonym of *Lopezia macrophylla* of Planchon; "but it seems impossible," they say, "that it can be the plant which Mr. Bentham first described as *Lopezia macrophylla* in the 'Plantæ Hedwigianæ,' a shrub with downy leaves and terminal panicles of flowers. Our plant however is certainly the same species as Mr. Bentham's; only Hartweg's plant is rather more hairy; and assuredly our plant is identical with the woodcut in the 'Flower Garden,' copied, we presume, from Planchon's representation. In regard to the inflorescence, which Mr. Bentham describes as being racemose (not in 'terminal panicles'), I think that appearance arises in Hartweg's specimens from the leaves

having fallen away. In our plants the peduncles are single-flowered and axillary.—It is more than probable that our plant is the same with the *L. grandiflora* of Zuccarini, briefly characterized in the 'Flora' above quoted; but we have no means of determining the question. Our plant is a native of Mexico and Guatemala, and flowers in the greenhouse with us in March."

Descr. A small *half-shrubby* plant: the root is said to be tuberous and fleshy, like some Fuchsias. *Branches* green and succulent. *Leaves* opposite, on long *petioles*, ovate, acuminate, coarsely serrated, slightly hairy (variable, I believe, in this respect), and ciliated; strongly penninerved, the lateral nerves or veins channelled above, prominent beneath. *Peduncles* axillary, solitary, much longer than the petioles, slender, erecto-patent, single-flowered. *Flowers* large, bright red; the small, globose, inferior *ovary* only being green. *Calyx* segments erecto-patent, lanceolate, broader at the base. *Petals*, two narrower and longer than the calyx, geniculated at the base: two broader and shorter than the calyx. Perfect *stamen* one; *filament* as long as the style; *anther* large, oblong, terminal, purple: the other, or second stamen, is abortive, petaloid, oblong-spathulate, wavy at the margin, geniculated near the base, dilated at the point of insertion. *Style* about as long as the petals, hairy near the base. *Stigma* depresso-capitate.

Fig. 1. Flower from which the calyx-segments and two of the petals have been removed. 2. Ovary cut through transversely:—*magnified*.

Fitch, del. et lith.

F. Reeve imp.

Tab. 4725.

LILIUM roseum.

Rose-coloured Lily.

Nat. Ord. Liliaceæ.—Hexandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4561.)

Lilium (§ Notholirion, *Wall.*) *roseum;* foliis alternis flaccidis lineari-acuminatis carinatis superioribus remotis multoties brevioribus, floribus racemosis cernuis subinfundibuliformibus, sepalis uniformibus spathulatis apicibus reflexis ad basin usque distinctis basin versus maculatis, staminibus declinatis sepalorum longitudine, stigmate trilobo, " capsulis turbinatis obtuse hexagonis."

Lilium roseum. *Wall. Cat. n.* 5077, *et* var. β.

Fritillaria Thomsoniana. *Royle, Illustr. p.* 388. *t.* 92. *Kunth, Enum. v.* 4. *p.* 672.

Lilium Thomsonianum. *Lindl. Bot. Reg.* 1845, *t.* 1. *Walpers, Annal. Bot. v.* 1. *p.* 852.

We quite agree with Dr. Lindley that this is a *Lilium*, as it has been named by its discoverer, rather than a *Fritillaria*, as Dr. Royle and the late Professor Kunth have considered it, and assuredly it has no real nectary on a linear depression to the sepals. The habit however is peculiar, and the leaves in form rather resemble some *Hemerocallis* than a Lily or Fritillary. Dr. Wallich indeed has, in his MS. with which he has favoured us, named it *Notholirion roseum*, observing, " Lilio affine, sed differt stigmate bilobo." *Lilium roseum* is a native of Gossain Than and Kamaon (Wallich), and of Mussooree (Royle), and Almora (elev. 8000 feet), where it was found by Messrs. Thomson and Strachey. Seeds were sent by the latter gentleman to Kew Gardens, and the plants flowered in a cool frame in April, 1853. A slight variety or form of this (the Gossain Than plant of Dr. Wallich) is given as a new species by Dr. Royle, different from *L. roseum* (*Frit. Thomsoniana*, Royle); but Dr. Wallich's notes on both plants, made on the spot, prove that they are one and the same

Neither can we agree to the union of *Lilium roseum* with *L. macrophyllum* of Don, which is described as having *yellow* flowers.

Descr. *Bulb*, according to Dr. Wallich, "an inch long, oblong-ovate, tunicated, the scales oblong-lanceolate, shining, the exterior ones chestnut-brown." *Stem*, including the flowers, a foot and a half high, erect, terete, glabrous, as is every part of the plant. *Leaves* crowded at the base of the stem, but alternate, sessile, linear-acuminate, grassy, the lowermost very long, a foot or a foot and a half, gradually smaller and more distant upwards, broader at the base, and passing into bracteas, all of them carinated. The stem terminates in a raceme of eight or ten rather large, handsome, drooping, lilac flowers. *Pedicels* nearly an inch long, shorter than the lanceolato-subulate bractea. *Perianth* between infundibuliform and campanulate. *Sepals* free to their base, almost exactly spathulate, the apices reflexed, the base within destitute of a real nectary, but furrowed, white, with a dark purple streak. *Stamens* six, hypogynous, as long as, or rather longer than the pistil, slightly declined. *Filament* filiformi-subulate, white. *Anthers* oblong, deep purple. *Pollen* deep orange-red. *Ovary* oblong, obtuse, with three deep furrows, and three lesser intermediate ones, three-celled, many-ovuled. *Ovules* in two rows, attached to the inner angle of the cell. *Style* as long as the stamens, and declined with them, filiform; the *stigma* curved upwards, three-lobed. *Capsule*, according to Dr. Royle, "turbinate, obtusely six-angled. *Seeds* wingless."

Fig. 1. Sepal. 2. Pistil. 3. Transverse section of an ovary :—*magnified.*

4.

3

2.

F. Reeve imp

Tab. 4726.

AZALEA CRISPIFLORA.

Crisped-flowered Azalea.

Nat. Ord. Ericeæ.—Pentandria Monogynia.

Gen. Char. Calyx 5-partitus. *Corolla* infundibuliformis, irregularis, 5-loba. *Stamina* 5, cum corolla non concreta. *Antheræ* apice biporosæ. *Stylus* elongatus, cum staminibus exsertus, apice non sensim incrassatus.—Omnia ideo *Rhododendri*, sed flores constanter et regulariter pentandri et folia decidua. *De Cand.*

Azalea *crispiflora;* foliis obovato-lanceolatis acutis brevissime petiolatis utrinque margineque villosulis, floribus terminalibus solitariis pedunculatis, pedunculis brevibus bracteatis, calycis foliolis oblongis obtusis villosis, corollæ (pulcherrime roseæ) tubo infundibuliformi-campanulato, lobis amplis rotundatis patentibus undulato-crispatis, staminibus vix exsertis, ovario hispidissimo.

One of the many fine and showy plants introduced by Mr. Fortune from China. I am quite aware of the difficulty of determining whether a Chinese garden-plant, long in cultivation with the natives, ought to be considered new, however different from any known kind, or only a variety, or, still more probably, a hybrid. On this point I must leave others to decide, only observing that to me it appears to have, in its large and very crisped flowers, in the nature of the calyx, in the coloured bracts surrounding the base of the solitary flower-stalk, and the hispid ovary, sufficient characters to warrant its being considered a new and distinct species. Certain it is that the size and beauty of the flowers render it worthy of a place in every collection. It requires to be treated as a greenhouse plant; and with Messrs. Standish and Noble (Bagshot Nursery), to whom we are indebted for the specimen, its flowering season is April.

Descr. A moderate-sized *shrub*, rather copiously branched, the *branches* often subverticillate, woody, dark-brown, clothed with appressed chaffy hairs, most abundant on the young branches. *Leaves* alternate, about an inch and a half long, submembranaceous, patent, obovato-oblong or sublanceolate, acute, entire,

penninerved, villous both above and beneath with soft appressed hairs. *Peduncles* solitary, terminal upon almost every branch, short, half an inch, or little more, long, and almost wholly concealed by an *involucre* of three to five ovate, concave, membranaceous, erect, coloured (red) *bracteas*. *Calyx* cut almost to the base into three oblong, obtuse, villous lobes. *Corollas* large, deep rose-colour: *tube* between infundibuliform and campanulate, obtusely five-angled and gradually widening into the large, spreading, five-lobed *limb*; the *lobes* rotundate, remarkably waved and crisped at the margin. *Stamens* five, unequal, deflexed and ascending. *Filaments* red, downy below. *Anthers* deep purple, apparently abortive. *Ovary* small, ovate, five-lobed, very hispid. *Style* nearly as long as the stamens, glabrous. *Stigma* with five obtuse points.

Fig. 1. Stamen. 2. Calyx and pistil. 3. Ovary. 4. Transverse section of ditto:—*magnified.*

3.

1.

2.

Fitch del et lith.

F. Reeve, imp.

Tab. 4727.

SEMEIANDRA GRANDIFLORA.

Large-flowered Semeiandra.

Nat. Ord. Onagrarieæ.—Diandria Monogynia.

Gen. Char. Calyx ovario cohærens, ultra ovarium longe productus, coloratus, inæqualiter infundibuliformis, ad medium in lacinias 4 longe lineares elongatas, quorum tres demum reflexas quartam erectam, fissus. *Petala* 4, parva, angustissime linearia, cum laciniis calycinis alterna. *Stamina* duo, unacum stylo in columnam subcarnosam longe exsertam tubo calycis toto secus sepalum posterius adnatam connata, superne libera: unum (posterius) in ligulam petaloideam apice expansum; alterum (anterius) antheriferum. *Anthera* dorso medio affixa, biloculares, loculis parallelis. *Ovarium* 4-loculare, multiovulatum. *Stylus* filiformis, tubo calycis triplo longiore. *Stigma* depresso-capitatum. *Capsula* globosa, 4-locularis, loculicide 4-valvis, polysperma: dissepimentis placentæ centrali adnatis persistentibus. *Semina* ovoidea, minuta, muriculata.—Suffrutex *pubescens Mexicanus*. Folia *pleraque opposita, oblonga v. ovata, basi in petiolum attenuata, serrata*. Flores *axillares, solitarii* (*vel, si mavis*, Racemi *terminales foliosi*); pedicelli *graciles, fructiferi deflexi, sub fructu incurvi*. Flores *coccinei, satis magni*.

Semeiandra *grandiflora*.

Semeiandra grandiflora. *Hook. et Arn. Bot. of Beech. Voy. p.* 291. *t.* 59.

A remarkable genus, allied to *Fuchsia*, with singularly-formed flowers of a bright scarlet colour; the coloured calyx constituting the principal portion of the flower. Native of Mexico, first detected about Tepic, by the Naturalists of Captain Beechey's Voyage in H.M.S. Blossom, and described in the Botany of that Expedition. It was again found in the Sierra Madre, on the road from Mazatlan to Durango by Mr. B. Seemann, who transmitted to the Royal Gardens the seeds from which the plant represented in our Plate have been raised. "The *Semeiandra grandiflora*," says Mr. Seemann, "grows in the temperate regions of North-western Mexico, at an elevation from 4000 to 5000 feet above the ocean, among Galphimias, Tupas, Cupheas, and Lobelias. It is a slender shrub, about six feet high, and its bright scarlet blossoms render it a desirable acquisition to every garden. When I met with it towards

the end of 1850, it was both in flower and fruit, making it probable that it flowers more or less throughout the year."—With us (in Kew) it began to show its blossoms in March, 1853.

Descr. An erect, branched, suffruticose, downy *plant*, herbaceous above; *branches* terete. *Leaves* opposite, petiolate, ovate or ovato-lanceolate, tapering below, acuminate at the apex, penniveined. *Flowers* from the axils of all the superior leaves, so that they may be said to form a leafy raceme. *Peduncle* slender, one to two inches long (longer in fruit), single-flowered. *Flower* large, handsome, every part except the ovary bright red, even the style and filaments of the stamens. *Ovary* globose, small, green. *Calyx* petaloid; the *tube* infundibuliform; the *limb* cut into four linear, acuminate, very long segments, of which three are quite reflexed, while the fourth is erect. *Petals* four, linear subulate. *Stamens* two. *Filaments* very long, combined in the lower half with the inside of the calyx: free above. *Anther* oblong. *Style* a little longer than the stamens. *Stigma* capitate and umbilicate. *Capsule* about the size of a pea, on the elongated very patent or even reflexed peduncles, which latter curve upwards just below the fruit.

Fig. 1. Tube of the calyx (laid open), petals, pistil, and stamens. 2. Transverse section of the ovary. 3. Capsule:—*nat. size.*

Fitch del et lith

F.Reeve imp

Tab. 4728.

AZALEA amœna.

Bright-flowered Azalea.

Nat. Ord. Ericeæ.—Pentandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4726.)

Azalea *amœna;* humilis, ramis foliisque obovato-ellipticis integerrimis supra præcipue margineque appresse setosis, floribus terminalibus subcorymbosis, calyce colorato amplo corollam subæquante profunde 5-fido lobis incisis ciliatis, staminibus 5 exsertis.

Azalea amœna. *Paxton et Lindl. Flower Garden, v.* 3. *t.* 89.

This lovely *Azalea* was introduced to Messrs. Standish and Noble's extensive nursery, Bagshot, by Mr. Fortune, from Shanghae, where it was cultivated, and to which place it had been brought from the far-famed city of Soo-chow-foo. It is supposed by Mr. Fortune to be "from a country further north than any of its race in China have been known to inhabit, or at all events from a higher elevation on the mountains." Certain it is, that at Bagshot a plant has stood out the whole winter, unharmed, without protection, and it is expected to be perfectly hardy. Our plant was received from Messrs. Standish and Noble; and the little bush, in April, 1853, was covered with its beautiful richly-coloured blossoms in a cool greenhouse, where other Indian Azaleas are protected. Mr. Fortune pronounces it to be a very distinct species; and assuredly, difficult as it may often be to pronounce on the specific value of Azaleas cultivated by the Chinese, we see no reason to doubt the correctness of Mr. Fortune's opinion in the present instance. We cannot but express surprise that the flowers in the 'Flower Garden,' above quoted, are described as having that kind of double corolla which is called "hose in hose:" and further, "no calyx is discoverable; but whether that organ is absent, or is converted into the external corolla, is uncertain." This error has apparently arisen from the large size of the calyx (nearly as large as the corolla), and its being coloured like the corolla; but that this organ is *the* true

calyx is as clear as the calyx upon any other *Azalea*, and is most apparent in the state of the advanced bud (see our figure). It is moreover fringed or ciliated like the leaves, while the corolla is not.

Descr. Our *plant* forms a small *bush*, a foot high, with numerous wiry *branches*, dividing almost from the base, often fasciculate, everywhere clothed with appressed chaffy brown bristles, most copious on the younger branches. *Leaves* sparse or wanting in the lower part of the branches, rather crowded towards the extremity, elliptical-obovate, tipped with a short mucro, subcoriaceous, nearly sessile, patent, entire, dark green above, and rather thickly setose, as is the margin, pale and somewhat glaucous beneath, setose on the costa; the veins are pinnated, and they combine so as to form an almost continuous line distant from the margin: all the setæ are close-pressed and chaffy, and brown, except on the very young shoots, where they are quite white. *Peduncles* red, single-flowered, axillary, solitary, but as they are confined to the uppermost leaves they form a kind of leafy *corymb*. *Calyx* remarkably large, and as richly coloured as the corolla, campanulate, membranaceous, deeply and rather irregularly five-lobed, the lobes often laciniated and fringed with white hairs. *Corolla* rich crimson-purple, campanulate, the *limb* spreading, deeply five-lobed, quite glabrous. *Stamens* five, ascending. *Filaments* crimson. *Anthers* dark-purple, ovate, opening by two pores. *Ovary* ovate, setose, five-celled. *Style* decurved, then ascending, much longer than the stamens. *Stigma* with five small points.

Fig. 1. Calyx and pistil. 2. Stamen. 3. Pistil. 4. Transverse section of pistil:—*magnified*.

1.

2.

Fitch del et lith.

F. Reeve, imp.

Tab. 4729.

CANTUA bicolor.

Two-coloured Cantua.

Nat. Ord. Polemoniaceæ.—Pentandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4386.)

Cantua *bicolor;* foliis obovatis apiculatis integerrimis junioribus ramulisque hirsutis, floribus in ramos terminalibus solitariis, calyce glabriusculo membranaceo, corollæ tubo flavo dimidio breviore, staminibus styloque exsertis.

Cantua bicolor. *Lindley et Paxton, Mag. Bot.* 1849, *cum Ic.*

Cantua ovata? *Cav. Ic. t.* 363.

Periphragmos uniflorus? *Ruiz et Pav. Fl. Per. t.* 2. *p.* 18. *De Cand. Prodr. v.* 9. *p.* 321.

We are indebted to Messrs. Veitch for living plants of this *Cantua*, which flowered in April, 1853. It has, indeed, already appeared in the volume of 'Paxton's Magazine of Botany' for 1849 (no number or page), under the name of *C. bicolor*, as a plant recently introduced by Messrs. Veitch from Peru, through their collector, Mr. William Lobb, who sent the seeds in 1846; but though a new name is given to it, the "Authorities and Synonyms" quoted under it are, "*Cantua tomentosa*, Cav., *Periphragmos dependens*, R. et P., *Cantua dependens*, Pers., and *Cantua buxifolia?* Juss.," all, except Persoon, giving figures illustrative of what they intend; and all these are as related in the Bot. Magazine, t. 4582, considered by us the same as, or mere varieties of *Cantua buxifolia*, Cav., and as such quoted under that species at our Tab. just quoted. Here, however, is quite a different-looking plant, with a comparatively short and quite yellow tube to the corolla, solitary, and never drooping vertically, and raised from seeds from the same country as our *C. buxifolia*. Yet, fearing the present plant might prove to be a cross with some other kind, we wrote to Mr. Veitch, who replies, "The only Cantuas we have bloomed are *C. bicolor* (here figured), *C.*

pyrifolia (see our Tab. 4386), and *C. buxifolia* (our Tab. 4582). The first, *C. bicolor*, was introduced by Mr. Low, though we had also seeds from Mr. William Lobb; but we have never had any hybrids." Whether a true species or not may be doubtful, but its beautiful flowers will recommend it to every cool stove. Were it not that Cavanilles describes his *C. ovata* as the "Corolla *cæruleo-rubens*," and Ruiz and Pavon (their *Periphragmos uniflorus* being the same) as having the "tube of the corolla *purple*, and the limb *violet*," I should confidently have referred it to that dubious species: the corolla of their plant is much longer than ours.

Descr. Our plant is a graceful, small, erect-growing *shrub*, somewhat virgate in the main *branches*, the shorter and younger ones, as well as the young foliage, hairy. *Leaves* about an inch long, including the short *petiole*, obovate, tapering or cuneate below, apiculate at the point, quite entire at the margin, penni-veined. *Peduncles* solitary at the extremity of the branches, single-flowered, curved downwards. *Flowers* large, drooping. *Calyx* monophyllous, between campanulate and cylindrical, membranaceous, veined and slightly reticulated, five-toothed; teeth triangular, erect. *Corolla* infundibuliform; *tube* yellow, twice as long as the calyx, obscurely striated; *limb* scarlet both within and without, of five obcordate spreading lobes. *Stamens* exserted; *filaments* yellow, unequal; *anthers* nearly black. *Ovary* ovate, glabrous, seated on a large glandular disc, three-celled. *Style* longer than the stamens, and much exserted. *Stigma* of three linear lobes.

Fig. 1. Pistil. 2. Transverse section of the ovary :—*magnified*.

2.

3.

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1.

5.

Tab. 4730.

RHODODENDRON niveum.

Snowy-leaved Rhododendron.

Nat. Ord. Ericeæ.—Decandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4336.)

Rhododendron *niveum;* arbuscula vage ramosa, cortice fusco rugoso, foliis obovato-lanceolatis petiolatis acutis opacis subtus petioloque tomento appresso niveo (rarius fuscescente) lanatis, capitulis globosis compactis multifloris, calyce obsoleto, corollæ late campanulatæ tubo intus basi plicis 5 membranaceis, ovarii annulo hypogyno magno lobato, capsulis ovali-oblongis cylindraceis tomentosis obtus 6-locularibus, valvis lignosis.

Rhododendron niveum. *Hook. fil. Rhod. Sik. Himal. Conspect. p.* 4.

Found by Dr. Hooker in Sikkim Himalaya; rocky valleys and ridges, Lachen, Lachong, and Chola; elevation 10,000 to 12,000 feet, not unfrequent: but he was not so fortunate as to meet with flowering specimens of this plant during his sojourn in Sikkim Himalaya. Yet from the fruiting ones he determined the species to be new, and he determined rightly. One of our young plants in the Royal Gardens produced the flowers here represented in May, 1853, and they afford additional characters to those derived from the peculiar form of the fruit, and the snow-white, flocculent, opaque tomentum occupying both surfaces of the very young leaf —permanent beneath—as distinguishing it from *R. arboreum* and from *R. Campbelliæ*. The colour of the flowers is indeed very different from either, and not unlike that of the European *R. ponticum* and the North American *R. maximum*, but showing deep sanguineous spots at the inner base of the corolla, where, alternating with them, are five membranaceous decurrent scales or plicæ. The calyx is obsolete, reduced to a small oblique scarcely lobed disc, and there is a very large hypogynous annular lobed ring, in which the ovary is inserted.

Descr. A small *shrub*, with rugged bark on the older stems and branches. *Leaves* moderately large, spreading, opaque on

both sides, obovato-lanceolate, tapering below into a short *footstalk*, the young leaves white-tomentose all over; the younger ones glabrous above, clothed beneath with white (rarely tawny) appressed flocculent tomentum. *Flowers* rather numerous, moderately large, on short tomentose peduncles. *Calyx* very small and inconspicuous, indeed concealed by the narrow base of the corolla, oblique, obsoletely five-toothed. *Corolla* externally yellowish-lilac, internally palish lilac, blotched with deeper lilac, and at the inner base having five, deep, blood-purple spots; the form is broadly campanulate, narrow at the base of the tube but there five-lobed; the limb spreading, five-lobed, retuse and slightly lobed and waved. *Stamens* ten, shorter than the corolla: *filaments* glabrous. *Ovary* oval, very tomentose, seated on a large fleshy lobed annular *disc*, generally six-celled. *Style* declined, curved upwards towards the apex. *Stigma* a mere obtuse point. *Capsule* oblong or oval-oblong, terete, olive-brown, downy.

Fig. 1. Portion of the base of the corolla, seen from within. 2. Stamen. 3. Ovary. 4. Ditto, cut through transversely:—*magnified*. 5. Capsule:—*nat. size*.

1.

2.

3.

4

5.

6.

Fitch del et lith.

F Reeve imp

Tab. 4731.

FRITILLARIA oxypetala.

Sharp-petaled Fritillary.

Nat. Ord. Liliaceæ.—Hexandria Monogynia.

Gen. Char. Perigonium corollinum, deciduum, hexaphyllum; *foliola* subæqualia, campanulato-conniventia, intus supra basin linea nectarifera. *Stamina* 6, *perigonii foliolis* basi adhærentia. *Ovarium* triloculare. *Ovula* in loculis plurima, biseriata, horizontalia. *Stylus* terminalis, subclavatus: *stigma* 3-partitum. *Capsula* trigona vel hexagona, angulis acutis, trilocularis, loculicido-trivalvis. *Semina* in loculis plurima, biseriata, horizontalia, compresso-plana; *testa* fusca, membranaceo-alata, rhaphe hinc per marginem decurrente. *Embryo* minimus, umbilico proximus.—Herbæ *in Europa australiore et Asia media indigenæ, bulbosæ, caulescentes;* foliis *alternis v. subverticillatis;* floribus *axillaribus, plerumque maculatis, nutantibus. Endl.*

Fritillaria *oxypetala;* foliis linearibus seu lineari-lanceolatis alternis radicali lanceolato basi longe attenuato, caule unifloro, flore nutante, sepalis demum patentibus oblongo-ovatis acutis basi contractis subunguiculatis, ungue nectarifero extus et intus ad basin laminam pilis fasciculatis barbato, bulbo squamis elongatis erectis tunicato.

Fritillaria oxypetala. *Royle, Bot. Himal. p.* 388.

Found at Pindari, Kumaon, elevation above the sea 12,500 feet, by Messrs. R. Strachey and Winterbottom (n. 4 of their Herbarium). Roots of this plant, as well as specimens, have been sent to me by those gentlemen; the former producing flowering plants in June, 1853. If I am correct in referring it to the *F. oxypetala* of Dr. Royle, of which he has given a brief character, it was discovered by him at Taranda, in Kunawar. It has not the bell-shaped corolla of the legitimate Fritillaries, yet hardly seems generically distinct. It succeeds well in a cool frame.

Descr. *Bulb* oblong, coated with many large, lanceolate, erect, fleshy, greenish-white scales, the outer ones as long as the inner. *Stem* a foot or a foot and a half high, terete, leafy. *Radical leaf* generally solitary, long, lanceolate, tapering down into a slender petiole-like base: *cauline leaves* distant, linear or linear-

lanceolate, varying in length, recurved. *Flower* solitary, terminal, moderately drooping, at first subcampanulate, at length spreading. *Sepals* six, ovate or ovato-oblong, acute, contracted at the base into a nectariferous *claw*, bearing a small tuft of hair externally at the base, and a large dense crest-like tuft within at the base of the lamina. *Colour* of the sepals lilac-purple, having a green keel externally; within, the lower half, or rather more, is sprinkled with purple dots. *Stamens* six, shorter than the sepals; *anthers* oblong, dark purple. *Ovary* oblong, somewhat six-angled, three-celled. *Style* equalling the length of the filaments. *Stigma* three-lobed, papillose. *Capsule* globoso-oblong, with six rather sharp angles.

Fig. 1. Root-leaf:—*nat. size.* 2. Sepal. 3. Pistil. 4. Ovary cut through transversely:—*magnified.* 5. Capsule. 6. Bulb:—*nat. size.*

Fitch del et lith

F. Reeve, imp.

Tab. 4732.

VACCINIUM ovatum.

Ovate-leaved Whortleberry.

Nat. Ord. Vaccinieæ.—Octandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4612.)

Vaccinium *ovatum ;* valde ramosum, ramis patentibus purpureis rigidis junioribus puberulis, foliis sempervirentibus ovatis coriaceis nitidis acutis subcarinatis brevipetiolatis dentato-serratis, racemis copiosis brevibus axillaribus terminalibusque, corollis globoso-campanulatis, filamentis hirsutis, antheris dorso muticis, loculis superne longe productis.

Vaccinium ovatum. *Pursh, Fl. Am. Sept. v.* 1. *p.* 290. *Lindl. Bot. Reg. t.* 1354. *Hook. Fl. Bor. Am. v.* 2. *p.* 34.

Vaccinium prunifolium. *Hortulan.*

We received this into the Arboretum of Kew from a nursery, under the name of *Vaccinium prunifolium ;* but it is clearly the very little-known (as a garden plant) *V. ovatum* of Pursh, first discovered by Menzies in North-west America, and afterwards traced by Lewis and Scouler and Douglas, extending in the Oregon territory from the fortieth to the forty-ninth degree of latitude. It was introduced to the Horticultural Society by Douglas, and is perfectly hardy and very ornamental ; the leaves being evergreen and glossy, and the flowers, though much concealed by the foliage when looked on from above, are of a waxy, yellowish white, delicately tinged with pale pink.

Descr. A *shrub* about two to two and a half feet long, much branched, with rigid, straggling, dark-purple, terete *branches*, the younger ones puberulous. *Leaves* rather copious, on very short *petioles*, ovate, or somewhat carinate, coriaceous, very acute, dentato-serrate, glossy, penninerved, deep green above, paler and yellower beneath. *Racemes* solitary from the axils of the leaves, but curved down to the underside of the branches, short, four to six or more flowered. *Calyx* with the adherent tube turbinate,

articulated upon the peduncle; *limb* of five triangular segments, embracing the base of the corolla. *Corolla* campanulate, globose, waxy white, tipped with deep rose-colour; *limb* of five recurved triangular segments. *Stamens* ten, shorter than the corolla. *Filaments* broad-subulate, hairy. *Anthers* oblong, two-celled, the cells attenuated above into long narrow tubes opening at the extremity. *Style* a little longer than the stamens, but included within the corolla. *Stigma* obtuse.—The *fruit* is said by Mr. Douglas to be black, and agreeable to the taste.

Fig. 1. Flower. 2. Calyx and pistil. 3. Stamen:—*magnified.*

Fitch. de. et lith.

F.Reeve, imp.

DICHORISANDRA LEUCOPHTHALMOS.

White-eyed Dichorisandra.

Nat. Ord. Commelyneæ.—Hexandria Monogynia.

Gen. Char. Flores subregulares. *Sepala* 6, libera; exteriora calycina, navicularia, persistentia: supremum interdum crassius (*Endl.*); *interiora* majora, petaloidea, subobovata, basi cuneato-angustata: anticum paulo minus. *Stamina* 6, interdum sextum sepalo exteriori impari respondens, imperfectum vel plane deficiens, basi sepalorum interiorum inserta, per duas phalanges disposita. *Filamenta* breviuscula, imberbia. *Antheræ* conformes, interdum magnitudine parum inæquales, elongatæ, biloculares; *loculis* angustis, parallelis, contiguis, apice poro communi hiantibus, juvenilibus bilocellatis. *Ovarium* sessile, triloculare; *ovulis* 4–5 in quolibet loculo, subbiseriatis. *Stylus* filiformis. *Stigma* subcapitellatum. *Capsula* (baccata, *Nees*, corolla baccante indusiata, *Mik.*) trilocularis, trivalvis; valvis medio septiferis. *Semina* plura, angulata, arillo (testa) membranaceo subpulposo laxo separabili tecta (*Vahl*).—Herbæ (*Brasilienses*) *subsimplices v. ramosæ, perennes, rarissime suffrutescentes, sæpe? erectæ, interdum scandentes.* Folia *indivisa.* Vaginæ *integræ.* Racemi *terminales, solitarii, rarius versus basin caulis lateraliter erumpentes, ramosi, bracteati;* ramis *breviusculis, apicem versus pauci-rarius multifloris.* Flores *cærulei, nonnulli abortu ovarii masculi. Kth.*

Dichorisandra *leucophthalmos;* foliis ellipticis acuminatis utrinque glabriusculis, scapis radicalibus vel subradicalibus aphyllis vaginatis paniculatim racemosis glaberrimis, bracteis e lata basi acuminatis sepala exteriora vix superantibus, floribus hexandris.

Native of Brazil, introduced to the stoves of the British Gardens by Messrs. Henderson, St. John's Wood, to whom we are indebted for our flowering plant. How near the present species is to the *Dichorisandra radicalis,* Nees and Martius, may be seen by referring to the figure in the eleventh volume of the Nov. Act. Nat. Cur., tab. 1 A: that species however abundantly differs in the much smaller size, especially of the flowers, in the very villous stem and sheaths and peduncles, in the very long, subulate, hairy bracteas, much longer than the capitate flowers, and the presence of only five stamens. With us it blossoms in

June, and the panicles lie prostrate on the ground; the large corollas, blue and white, and the yellow anthers have a very striking effect. There is another species with radical inflorescence, *D. rhizophora;* but that has longer and more attenuated leaves, capitate flowers, and five stamens.

Descr. *Stems* two or three together, erect, terete, jointed, a span or more high, nearly as thick as the little finger, glabrous, the lower portion clothed with two or three cylindrical, striated *sheaths*, ciliated at the mouth, above a little leafy; the upper portion concealed by the green sheathing bases of the leaves, which are three to five in number. *Leaves* four to six inches long, elliptic-lanceolate, sharply acuminated, moderately attenuated below till they form the sheath; striated, patent, and often recurved. From a joint at the base of the stem, or near the base, the *peduncle* or *scape* emerges, and is prostrate, glabrous, flexuous, panicled, here and there sheathed with brown scales. *Flowers* often three together, each on a branch of the peduncle, large. *Bracteas* from a broad base subulate, herbaceous. Outer *sepals* or *calyx* oblong, concave, spreading, between herbaceous and scariose. *Petals* four times as large as the sepals, broadly obovate, spreading, blue-purple, white in the lower half. *Stamens* six, nearly equal. *Filaments* short. *Anthers* bright yellow. *Pistil* as long as the stamens. *Ovary* subglobose, three-lobed. *Style* curved. *Stigma* obtuse.

Fig. 1. Calyx and stamens and pistil. 2. Pistil:—*magnified.*

1.

2.

Fitch, del et lith.

F. Reeve, imp.

Tab. 4734.

BRASSAVOLA lineata.

Line-leaved Brassavola.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4474.)

Brassavola *lineata;* folio tereti elongato acuminato inferne attenuato antice sulcato, pedunculo radicali bifloro, floribus magnis pendentibus, sepalis petalisque lineari-lanceolatis conformibus, labelli ungue elongato integro, lamina ampla cordato-acuminata longitudinaliter plicato-striata.

From the stove of Messrs. Jackson's nursery at Kingston; it was purchased at one of the sales of Mr. Warsowitz's South American Orchideæ in London, in 1852, and produced its large blossoms, here represented, in June, 1853. In the general shape and size of the flower, it approaches nearest perhaps to the *Brassavola venosa*, as represented at our Tab. 4021; but the great lamina of the lip is striated with longitudinal plicæ, the leaves are long, terete, and, what is remarkable in our plant, and in which it differs from most of the species known to me, the two-flowered peduncle springs from the caudex, or, in fact, is radical, not terminal, as the genus is described to be, or from the apex of the short stem at the base of the leaf*.

Descr. *Epiphyte.* From a short, creeping, jointed, terete *caudex*, there arise a few, short, cylindrical *stems*, clothed with a greyish *sheath*, and bearing each, jointed on to the apex, a long, almost terete, but grooved on one side, dark-green, fleshy, but rigid, curved *leaf*, tapering at the apex, and attenuated at the base: these leaves are pendent. From the same caudex also appears a short, declined, two-flowering, terete *peduncle*, with large, nearly white, drooping *flowers*. *Sepals* and *petals* uniform, moderately spreading, between linear-lanceolate and subulate,

* Since the above was written Dr. Lindley has referred me to *Brassavola acaulis*, Paxton's Flower Garden, vol. ii. p. 152, as allied to but different from this, in its short leaves, one-flowered peduncle, and short unguis.

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three to three and a half inches long, of a pale yellowish-green colour, the sepals slightly tinged with red. *Lip* very large, white, the base convolute, and forming a tube enclosing and concealing the column; the *limb* cordato-ovate, acuminated, obscurely crenate and waved at the margin, the disc faintly obliquely striated, more distinctly so longitudinally from the presence of plicæ. *Column* short, semiterete, terminated by three horns, which include the anther; one dorsal, shorter, narrow, and bifid; and two lateral ones subulate, and much longer than the anther. *Pollen-masses* as in the genus.

Fig. 1. Column from which the lip has been removed. 2. Pollen-masses:—*magnified.*

Etch.d et lith.

F.Reeve Del.

Tab. 4735.

GILIA (Leptosiphon) lutea.

Yellow Gilia, or Leptosiphon.

Nat. Ord. Polemoniaceæ.—Pentandria Monogynia.

Gen. Char. Calyx tubuloso- v. obconico-paniculatus, 5-fidus, laciniis acutis. *Corolla* infundibuliformis, nunc tubo longissimo fere hypocraterimorpha, nunc tubo brevissimo subrotata, limbo regulari. *Stamina* ad faucem v. paulo infra æqualiter inserta, filamentis basi nudis v. piloso-appendiculatis. *Discus* cupulæformis, rarius obscurus. *Ovarium* ovoideum. *Ovula* in loculis sæpius plurima (6–10), biseriata, interdum pauca, imo solitaria, nunc numerosissima, 3–4-seriata. *Styli* lobi sæpe papilloso-hispidi. *Capsula* oblonga v. obovoidea, obtusa. *Semina* ovoidea, angulata v. compressa, rarius angustissime alata.—Herbæ *annuæ v. perennes, glabræ v. superne pubescentes v. lanatæ.* Folia *alterna v. opposita, subulata v. linearia, integra vel dissecta, nunc in sect.* 1 *ad* 4 *pinnatisecta segmentis integris dissectisve, nunc in sect.* 6 *ad* 11 *palmatisecta segmentis integerrimis.* Flores *nunc capitati,* bracteis *suffulti v. ebracteati, nunc sæpius dissiti, ebracteati.* Corollæ *elegantes, lilacinæ, purpurascentes, albidæ v. rarius flavicantes. Benth.*

Gilia (Leptosiphon) *lutea;* caulibus filiformibus molliter patentim villosis debilibus, ramis oppositis gracilibus flexuosis, foliis oppositis sessilibus palmatim 5–7-lobis, lobis linearibus subspathulatisve carnosis ciliatis, bracteis similibus sed majoribus lobis subulatis, calycis villoso-glandulosi lobis lanceolato-subulatis, corollæ (luteæ) tubo glanduloso longissimo filiformi.

Gilia lutea. *Steud. Nomencl. Benth. in De Cand. Prodr. v.* 9. *p.* 315.

Leptosiphon luteus. *Benth. in Bot. Reg. sub tab.* 1622.

We follow our very able countryman, Mr. Bentham, in uniting *Leptosiphon* with *Gilia,* from which it seems to differ in scarcely anything but the length and tenuity of the tube of the corolla. In our present species this is, indeed, of unusual length and slenderness, which, in conjunction with the colour of the corolla, a bright sulphur-yellow, with a dark almost orange-coloured eye, and the great quantity of flowers produced on the stems and branches, render this plant a highly ornamental annual, especially if cultivated in masses, for bedding out, etc.; and we cannot doubt it will become a great favourite as soon as it is more known. Mr. Douglas detected the plant in California; but it is

only known in our gardens through Messrs. Veitch, who received seeds last year from Mr. William Lobb, and this year (1853) beautiful tufts of it attracted attention at the Chiswick Horticultural Show.

Descr. A hardy annual, six to eight or ten inches high. *Stems* weak, filiform, purple-red, branched, clothed with soft, spreading hairs. *Branches* opposite, flexuose. *Leaves* opposite, chiefly at the setting on of the branches, spreading, sessile, palmately and deeply five- to seven-cleft, the segments narrow, fleshy, ciliated, linear or spathulate. *Flowers* all terminal, capitate, erect, bracteated; *bracteas* opposite, resembling the leaves in shape, but larger, and with longer and subulate lobes. *Calyx* glanduloso-hirsute; lobes erect, lanceolate, subulate. *Corolla* yellow, with the tube an inch and a half to nearly two inches long, very slender, filiform, slightly curved. *Limb* of five spreading oval lobes, orange-coloured at the mouth. *Stamens* exserted, orange. *Ovary* oval. *Style* a little longer than the tube. *Stigmas* three, large, linear.

Fig. 1. Calyx. 2. Stamen. 3. Pistil. 4. Section of an ovary :—*magnified.*

Fitch, del. et lith.

F Reeve imp.

Tab. 4736.

PANDANUS pygmæus.

Dwarf Screw-Pine.

Nat. Ord. Pandaneæ.—Diœcia Polyandria.

Gen. Char. Flores dioici. Masc. *Spadix* compositus, thyrsoideus. *Stamina* plurima, conferta; *filamenta* filiformia. *Antheræ* biloculares. Fœm. *Spadix* simplex. *Ovaria* plurima, dense conferta, libera vel in phalanges connata, 1-ovulata; *ovarium* e basi placentæ parietalis adscendens, anatropum. *Stigmata* sessilia, distincta. *Drupæ* fibrosæ, (sæpius, *Br.*) in phalanges connatæ, monospermæ; putamine osseo. *Semen* e basi placentæ parietalis erectum; *testa* membranacea, in pluribus raphidophora (*Bennett*); raphi filiformi, obsoleta. *Embryo* in basi albuminis dense carnosi minimus, orthotropus; *radicula* hilum attingens, infera.—Caudex *arborescens, strictus, sæpe stolonifer.* Folia *phyllodinea, trifariam imbricata, elongato-lineari-lanceolata, amplexicaulia, margine sæpius spinosa.* Spathæ *confertæ, sæpe coloratæ, ex axilla spadicis excrescentes. Kth.* (ex *Endl.*)

Pandanus *pygmæus;* patenti-ramosissimus, undique radicans, foliis subpedalibus e lata basi amplexicauli lineari-subulatis acuminatissimis carinatis, marginibus carinaque albo-serrato-spinulosis, capitulis fœmineis ellipticis racemosis erectis, nucibus (immaturis) obovato-cuneatis monospermis.

Pandanus pygmæus. *Thouars, in Desv. Journ. de Bot. v.* 1. *p.* 45. *Kunth, Enum. Plant. v.* 3. *p.* 99.

Our name and our reference to the plant of M. Aubert du Petit Thouars must be received with some degree of caution. "The trees which constitute the genus *Pandanus*, *Vaquois* or *Baquois* of the French," observes M. du Thouars, "are amongst the most singular of those that grow in countries situated within the tropics; on which account they have been remarked by all travellers in those countries. Rheede and Rumphius have described many of the species, but without any details of their fructification; and it is on this account that Linnæus had omitted them in his 'Systema.' But having been observed by Förskal, Bankes, Forster, and Commerson, the younger Linnæus adopted the genus (*Pandanus*) in the 'Supplementum' which he has given of his father's work, indicating however only one species." M. Lamarck (Dictionnaire Encyclopédique) described four species.

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Willdenow reduced that number to three, to which he added one of Loureiro. M. Persoon (Synopsis) to the four of M. Lamarck adds a fifth of M. de Beauvois (Flore d'Oware).

During M. du Thouars' excursions in the Mauritius, Bourbon, and Madagascar, he discovered "sixteen distinct species, which he was unable to refer to any described by authors, and of which, in the Journal above quoted, he has given specific characters, and some notice of their habits." So brief however are those notes altogether, that they rather serve to perplex than to enlighten; and the only specific phrase of the species we take to be ours is, "capitulis racemosis erectis, nucibus monospermis apice pyramidatis." Our plant was received some twenty years ago, through Mr. Newman, of the Botanic Garden, Mauritius, and was stated to have come from Madagascar. It flourishes in stove-heat, and flowered for the first time (female flowers only) in 1852–3.

Descr. This is with us a low spreading *shrub*, in the centre not two feet high, but from the base sending out numerous horizontal, rooting, annulated (from the scars of old leaves) *branches* in all directions; the *roots* are often nearly as thick as the branches, terete, here and there tuberculated, simple or forked, many of them aerial, others descending and burying themselves in the soil among moist moss. *Leaves* confined to the extremities of the branches, about a foot long, spirally arranged in threes, from an amplexicaul broad base, linear-subulate, much acuminated, minutely striated, carinated, the margins and keel fringed with white spinulose serratures. *Peduncle* short, terminal, buried among the upper leaves, erect, bearing a bracteated *raceme* or *spike* of from four to six sessile, elliptical heads (*spadices*) of closely compacted and conjoined *pistils*, inversely pyramidate, somewhat six-angled, one-ovuled: the apex and short style only of the ovary free, terminated by a two-lobed stigma. *Bracteas* or *spathas* large, ovato-rotundate, concave, membranaceous, sheathing, pale green, larger than the spadix, the lower ones acute, the upper ones terminated by a subulate, sharp, serrated point, resembling the apex of a leaf.

Fig. 1. Spadix or head of female flowers, with its bract or spatha:—*natural size*. 2. Spadix cut through transversely. 3. Two pistils cut through vertically:—*magnified*.

F Reeve, imp

Tab. 4737.

RHYNCHOSPERMUM JASMINOIDES.

Jasmine-flowered Rhynchospermum.

Nat. Ord. Apocyneæ.—Pentandria Monogynia.

Gen. Char. Calyx profunde 5-fidus vel sub-5-partitus; tubo campanulato basi interne multiglanduloso, glandulis truncatis; lobis oblongis, æstivatione valvari? *Corolla* 5-fida; *tubo* cylindraceo, exappendiculato; *lobis* oblique obovatis, æstivatione sinistrorsum convolutis et apice inflexis. *Stamina* 5; filamentis cum basi corollæ manifeste adnatis; antheris hastatis, medio stigmati adhærentibus, lobis inferioribus polline destitutis. *Nectarium* cupuliforme, 5-fidum, lobis obtusis. *Ovaria* 2, nectario longiora. *Stylus* 1. *Stigma* oblongum. *Folliculi* elongati, compressi, angusti. *Semina* plurima, inferne obovata, compressa, superne in collum gracile angustata, in comam sericeam desinentia. *Albumen* 0. *Embryo* rectus; *radicula* supera, usque ad originem colli extensa; cotyledonibus oblongis, radicula triplo longioribus, facie adpressis.—Frutices *scandentes* Asiatici, foliis *oppositis, nervulis reticulatis, integris;* cymis *terminalibus et axillaribus, multifloris. Alph. De Cand.*

Rhynchospermum *jasminoides;* foliis (parvis) ovato-lanceolatis acutis, corymbis terminalibus axillaribusque folio pluries longioribus, calycis laciniis lanceolatis ciliatis reflexis, corollæ (albæ) laciniis obovatis marginibus reflexis undulatis, glandulis hypogynis distinctis.

Rhynchospermum jasminoides. *Lindl. in Journ. Hort. Soc. of Lond. v.* 1. *p.* 74. *cum Ic. xylogr.*

A pretty, white-flowered (consequently making no show on paper), evergreen shrub, flowering when young, and even before the scandent character appears, with blossoms somewhat resembling the common Jasmine, and the scent is equally deliciously fragrant with that favourite flower. It is a native of Shanghai, where it was collected by Mr. Fortune, and introduced by him to the stoves of this country. It differs a good deal in habit from the East Indian *Rhynchospermum Wallichii*, De Cand. (Echites rhynchosperma, *Wall.*), which has large leaves and large pink flowers: and Dr. Lindley observes that in habit it is more like an *Aganosma*, but its corolla has not the tapering lobes of that genus, nor does the nectary or stigma correspond with it.

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Descr. Our *plant* is about three feet high, erect, but with an inclination to be a climber; *branches* glabrous, or nearly so. *Leaves* opposite, on very short *petioles*, ovato-lanceolate, acute, evergreen, the younger ones pale yellow-green, all glabrous. *Peduncles* solitary, axillary or terminal, much longer than the leaves, bearing a *cyme* of several, white, very fragrant *flowers*. *Calyx* divided almost to the base into five, reflexed, lanceolate, ciliated segments; within the calyx are several jagged scales at the base of the *corolla*. *Corolla* white: the *tube* contracted below the middle (hairy within at the mouth); *limb* of five, oblique, obovato-spathulate, spreading, waved *lobes*, their margins reflexed. *Anthers* 5, subulato-sagittate, sessile, collected into a cone which unites itself with the stigma. At the base of the ovary are five large glands, two united and three free.

Fig. 1. Calyx and pistil. 2. Receptacle with the tube of the corolla cut through vertically, so as to show the hypogynous glands; the pistil and anthers, etc. 3. Ovarium and glands. 4. Stamen:—*magnified.*

Tab. 4738.

PHILESIA BUXIFOLIA.

Box-leaved Philesia.

Nat. Ord. Smilaceæ.—Hexandria Monogynia.

Gen. Char. Flores hermaphroditi. *Calyx* triphyllus, basi bracteatus, foliolis oblongis membranaceo-scariosis erectis. *Petala* 3, calyce 4-plo longiora majoraque, obovato-oblonga, mucronulata, campanulato-conniventia, ima basi in tubum connata, intus glandula seu tubercula nectarifera, cereacea, siccitate venosa, subtus glauca. *Stamina* 6, longitudine fere petalorum. *Filamenta* inferne monadelpha et ima basi petalorum conjuncta. *Antheræ* erectæ, oblongæ, subsagittatæ, basifixæ. *Ovarium* ovale, trigonum, liberum, uniloculare, placentis tribus parietalibus. *Ovula* plurima. *Stylus* stamina paululum superans. *Stigma* dilatatum, margine reflexo subtrilobo. *Bacca* ovali-globosa, (ut videtur) pulposa, polysperma, mucronata.—Suffrutex Magellanicus, *erectus, ramosus*, ramis *alternis squamoso-bracteatis apice præcipue foliosis.* Folia *alterna, lineari-elliptica, coriacea, mucronata, pennivenia, subtus glauca, margine reflexa ; in petiolis brevibus articulatis.* Flores *speciosi, nutantes, in ramos terminales solitarii, brevissime pedunculati*, pedunculis *bracteatis.*

Philesia *buxifolia.*

Philesia buxifolia. *Lam. Ill. t.* 248. *Encycl. v.* 5. *p.* 269. *Kunth, Enum. Plant. v.* 5. *p.* 285. *Lindl. Veg. Kingd. ed.* 2. *p.* 217 *cum Ic. floris. Hook. fil. Fl. Antarct. v.* 2. *p.* 35.

Discovered in the Straits of Magelhaens by Commerson, and detected by Banks and Solander in Good Success Bay : since found to extend along the west coast of Antarctic America to Chiloe and Valdivia by various navigators and naturalists, from most of whom we possess specimens. In Valdivia Mr. Bridges says it is called "Pepino," and is found at the summit of the Cordillera there, in marshy places under Alerse trees. It was long a great desideratum to our gardens, till at length Messrs. Veitch, of Exeter (and now, happily for all lovers of rare and beautiful plants, also of the King's Road Nursery, Chelsea,—late Messrs. Knight and Perry), introduced it through their collector Mr. William Lobb, and gratified the numerous visitors of the Chiswick Flower-show, on the 12th June, 1853, by the exhibition of

flowering specimens. Some authors have expressed doubts if the genus *Philesia* be truly distinct from its near ally, *Lapageria* (see our Tab. 447); but however closely may be the resemblance in the petals, the truly calycine character of the short outer perianth, the erect stem and very different foliage (much resembling *Luzuriaga*), and the monadelphous stamens, will surely keep them distinct. The species proves quite hardy with Mr. Veitch at Exeter: it remains to be ascertained if it will prove so about London.

Descr. An erect, much branching, fruticose or suffruticose plant, three to four feet high in its native country. We have flowering specimens before us varying from four inches to a foot and a half, much branched; *branches* alternate, principal ones as well as the stem naked below, terete, and scaly with brown lanceolate scales at the joint; *branchlets* angular, green, here and there scaly. *Leaves* alternate, varying on different plants from an inch to an inch and a half long, petioled, linear-oblong, coriaceous, evergreen, penninerved, glabrous, mucronate, glaucous beneath, the margins reflexed. *Petiole* articulated at the setting on of the leaf, and the leaf is often deciduous there, leaving the persistent short petiole. *Peduncles* exceedingly short, terminal on the branches, bracteated at the base of the flower. *Flower* solitary, drooping, large. *Calyx* nearly three-quarters of an inch long, of three, oblong, rather obtuse, inbricating, appressed *sepals*, concave, scariose. *Corolla* two or two and a quarter inches long, erecto-campanulate, *petals* obovato-oblong, mucronulate, bright rose-red, somewhat waxy, equal, concave, when dry veiny, the base united; each having within a hard oblong depressed gland or nectary. *Stamens* springing from the base of the petals. *Filaments* united into a tube below the middle, then free, erect, equal, a little shorter than the petals. *Anthers* erect, subsagittate. *Ovary* small, oval-trigonal, one-celled, with three short parietal *placentæ*, which bear several *ovules*. *Style* a little longer than the stamens, rather thick. *Stigma* depresso-capitate, the recurved margin obsoletely three-lobed. *Fruit* an oval-subglobose, mucronated *berry*, rough on the surface from the many seeds within.

Fig. 1. Leaves. 2. Stamens springing from the base of the corolla, and pistil. 3. Base of a petal, showing the nectary. 4. Pistil. 5. Transverse section of ovary (all more or less magnified). 6. Berry :—*magnified.*

1.

2.

3.

Tab. 4739.

IMPATIENS Jerdoniæ.

Mrs. Jerdon's Balsam.

Nat. Ord. Balsamineæ.—Pentandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4615.)

Impatiens *Jerdoniæ;* epiphyta, caulibus aggregatis simplicibus brevibus crasso-carnosis purpureis hic illic radicantibus, foliis sul terminalibus ovatis acutis serratis, petiolis folio triplo brevioribus ad apicem glandulosis, pedunculis axillaribus 2–4-floris, pedicellis pedunculo longioribus (rubris), sepalis lateralibus lanceolatis anteriore amplo saccato compresso apice calcare brevi obtuso sursum curvato.

Impatiens Jerdoniæ. *Wight, Ic. Plant. Ind. Or. v.* 4. *t.* 1602.

Rooting, and we might almost call them tuberous, stems of this curious *Balsam*, were sent from the Neilgherries, by Mr. M'Ivor, to the Royal Gardens of Kew, in 1852, and the no less singular blossoms were produced in the greenhouse in June of the following year. It proves to be the *I. Jerdoniæ* of Dr. Wight, though his figure represents the spur much longer, and the stem much slenderer, than in our specimens. A more accurate representation of this plant, drawn on its native hills by Mrs. Norton (the accomplished lady of the recently retired Judge-Advocate of Madras), corresponds in every respect with the plant before us. The large and strikingly-formed flowers have a mixture of green, red, and yellow in them. The anterior petal, or nectary of Linnæus, is wholly red, and so remarkable in shape, that Dr. Wight suggests that this, and its ally, *I. Walkeri* (see Companion to the Bot. Mag. vol. i. pp. 321, tab. 18), might constitute a natural section of the genus: all of it is a sack, or, as Dr. Wight observes, there is no limb; in other words, the spur absorbs the whole of the limb in its formation. Dr. Wight's figure represents the apex of the nectary much longer than it is in our plant.

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Descr. *Stems* in shape not unlike those of *Cacalia articulata*, aggregated, erect or declined, three or four inches to almost a span long, fleshy, here and there constricted (pseudo-articulate), dark purple, scarred where leaves have fallen, and at intervals throwing out fibrous *radicles*. *Leaves* not numerous, confined to the upper part of the gouty stem, where they are alternate, petiolate, ovate, acute, serrated, spreading; the *petiole* with two to four pedicellated purple glands, where the blade is inserted. *Peduncles* axillary from the uppermost leaves, short, green, bearing each three to four pedicels, which are red, slender, much longer than the peduncle, and single-flowered. *Sepals* green; lateral ones large, bifid, yellow; anterior *petal* very large, a curved, compressed, red sack, the extremity forming a short *spur*, curved upwards. *Stamens* and *pistil* included within the petals.

Fig. 1. Flower from which the anterior saccate sepal (or nectary) is removed. 2. Lateral petal. 3. Anterior sepal or nectary :—*magnified*.

Fitch, del. et lith.

Tab. 4740.

ABIES BRACTEATA.

Bracteated Silver-Fir.

Nat. Ord. Coniferæ.—Monœcia Monadelphia.

Gen. Char. Flores monoici, masculi et fœminei amentacei. Masc. *Amenta* axillaria, versus apicem ramorum aggregata, subsessilia, simplicia, e staminibus nudis numerosis. *Antheræ* biloculares, apice cristatæ, rima transversa dehiscentes. *Pollen* trilobum. Fœm. *Amenta* oblonga, per ramos sparsa, rarius terminalia, subsessilia, e squamis bractealibus et ovariis lævibus basi biovulatis composita. Fructus: *Strobilus* oblongus, e carpellis imbricatis, basi, ubi semina fovent, planis (non excavatis) maturitate ab axi solutis et deciduis formatus. *Semina* alæ basi supra et subtus inflexura marginis laxe cinguntur et cum persistente decidunt. *Testa* coriacea. *Embryo* polycotyledoneus, in albumine carnoso-oleoso centralis; *radicula* infera.—Arbores *excelsæ, in iisdem uti congeneres zonis montosis utriusque hemisphæriæ vitam degentes et foliis solitariis sempervirentibus plerumque distichis insignes. Nees.*

Abies *bracteata;* foliis subdistichis linearibus planis mucronatis subtus argenteis, strobili ovati erecti bracteis exsertis cuneato-linearibus bilobis, lobis erosis, nervo in cuspidem linearem squama multoties longiorem producto, squamis e basi cuneata reniformi-orbicularibus.

Pinus bracteata. *Don in Linn. Trans. v.* 17. *p.* 443. *Lambert Pin. III. t.* 91.
Abies bracteata. *Hook. et Arn. Bot. of Beech. Voy. p.* 394.

The present is among the most remarkable of all the true Pines, particularly in the nature of its cones, and has long been a desideratum to our Pineta. The Messrs. Veitch, of Exeter, and King's-road, Chelsea, have a plentiful supply of young plants, and we are indebted to them for the opportunity of giving the accompanying figure, they kindly furnishing well-prepared native specimens with a perfect cone; all other well-ripened cones have fallen to pieces almost before reaching England. It is a Californian species. Dr. Coulter first discovered it in the Andes of St. Lucia, a mountainous range, running parallel with the coast. Douglas met with it at 6000 feet of elevation on the Californian mountains, in latitude 36° north. These botanists both failed to

bring home perfect seeds: it was left for Mr. William Lobb, Messrs. Veitch's indefatigable American collector, to succeed in this; and numerous living plants, and the noble specimen here figured, are part of the results of his mission.

Mr. Lobb must speak for himself respecting all perhaps that is known of this noble tree on its native mountains. "This beautiful and singular tree forms here" (he writes from the Californian forests) "the most conspicuous ornament of the arborescent vegetation. On the western slopes, towards the sea, it occupies the deep ravines, and attains the height of 120 to 150 feet, and from one to two feet in diameter: the trunk is as straight as an arrow; the lower branches decumbent; the branches above are numerous, short, and thickly set, forming a long tapering pyramid or spire, which gives to the tree that peculiar appearance, which is not seen in any other kinds of the *Pinus* tribe. When standing far apart, and clear from the surrounding trees, the lower branches frequently reach the ground, and not a portion of the trunk is seen from the base to the top.

"Along the summit of the central ridges and about the highest peaks, in the most exposed and coldest places imaginable, where no other Pine makes its appearance, it stands the severity of the climate without the slightest perceptible injury, growing in slaty rubbish, which to all appearance is incapable of supporting vegetation. In such situations it becomes stunted and bushy; but even there the foliage maintains the same beautiful dark-green colour, and when seen at a distance it appears more like a handsomely-grown Cedar than a Pine. No doubt it is one of the hardiest trees of the Californian vegetation, and is equally well adapted for clothing the mountain-tops as the sheltered valley.

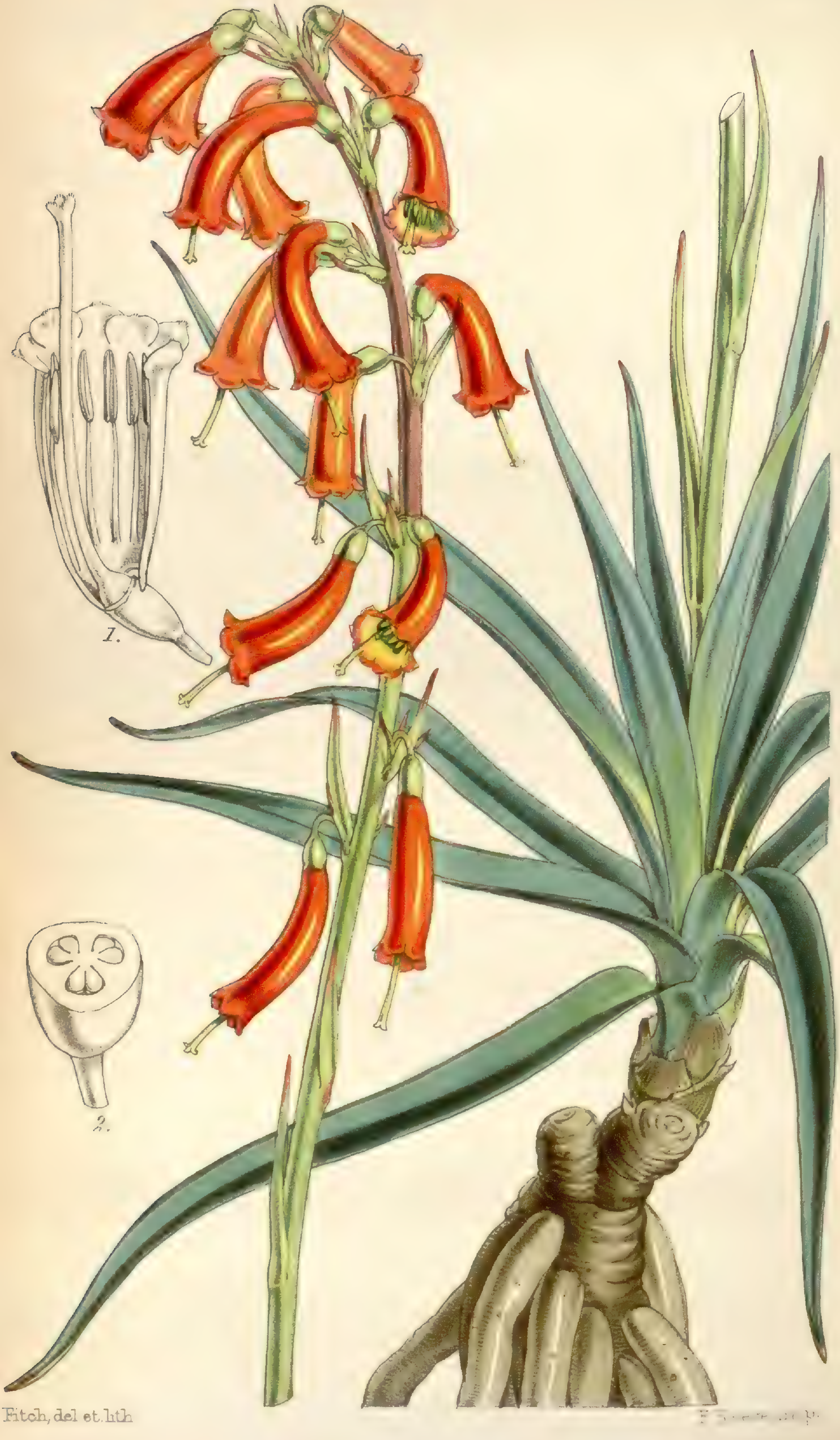
"The cones, too, are quite as singular as the growth of the tree is beautiful; when fully developed, the scales, as well as the long leaf-like bracts, are covered with globules of thin transparent resin, presenting to the eye a curious and striking object. Douglas was mistaken in saying that this Fir does not occur below 6000 feet of elevation; on the contrary, it is found as low as 3000 feet, where it meets *Taxodium sempervirens**."—Perhaps the introduction of no *Conifera*, not even that of the Deodar, has excited a more lively interest in horticulture and arboriculture than that of the present species, with its porcupine-like fruits.

Descr. The general habit of the full-grown tree has been already noticed. *Branches* spreading or decumbent. *Leaves* inserted indeed on all sides, but more or less spreading in a distichous manner, about two inches long, rigid, linear, acute, sessile, often curved, dark green and with a depressed line above, white and silvery beneath: young leaf-buds are ovate, and clothed with

* Extracted from 'Gardeners' Chronicle,' July 9, 1853, p. 435.

imbricated scales. *Cones* solitary, on a very short, lateral branch, but rising erect; our specimen is more than three inches long, exclusive of the spines, four and a half inches to the tip of the uppermost spines, broad, ovate, formed of copious, imbricated, somewhat unguiculate, entire, obtuse *scales*, having an obcordate appendage or bractea on the back, from the apex or sinus of which a long, rigid, linear, subulate, leaf-like (but narrower than the leaf) *spine* arises, slightly curved inwards, two inches long, including the base. Within the scale, and lying pressed against the inside of it, are two somewhat oval *seeds*, each with a broad, cuneate, and somewhat oblique wing.

Fig. 1. Outside of a scale, with its appendage and spine. 2. Inside of ditto, showing the seeds. 3. A seed:—*nat. size.*



1.

2.

Fitch, del et lith

Tab. 4741.

BRAVOA geminiflora.

Twin-flowered Bravoa.

Nat. Ord. Amaryllidaceæ.—Hexandria Monogynia.

Gen. Char. Perigonium superum, corollaceum, e *tubo* tenui curvato subinfundibuliformi-tubulosum, *limbo* sexpartitum, subregulare, persistens: laciniis abbreviato-ovatis, sepalinis vix latioribus. *Stamina* 6, supra basin perigonii diversa altitudine libera, inclusa vel vix exserta. *Filamenta* filiformia. *Antheræ* lineares, acuto-subapicatæ, basi emarginatæ, dorso medio affixæ, mobiles, interne secundum longitudinem dehiscentes. *Ovarium* inferum, oblongum, triquetrum, triloculare; *ovula* in loculis complura, biseriata, horizontalia, anatropa. *Columna* stylina filiformis, vix exserta. *Stigma* abbreviatum, triquetro-infundibuliforme, subtrilobum, fimbriato-villosulum. *Capsula* ovato-oblonga, trisulcata, pergameno-coriacea, trilocularis, superne loculicido-trivalvis. *Semina* crebra, compressa, horizontalia: *testa* membranacea, albumini adhærens, nigra, nitida.—Radix *subfasciculato-tuberosa, apice bulbifera.* Bulbi *a centro cauligeri, ovati, tunicati.* Folia *radicalia nonnulla, e basi vaginante linearia, carinata;* caulina *sparsa, remota, gradatim breviora, superiora bracteæformia.* Caulis *erectus, simplex, teres, apice remote racemoso-pluriflorus.* Flores *pedunculati, gemini, secundi, cernui, extus punicei, intus lutescentes;* pedunculis *cum flore haud articulatis, geminis;* bractea *communi majore, singulis bracteola minore stipatis. Kth.*

Bravoa geminiflora. *La Llave et Lex. Descr.* 1. *p.* 6. *Herb. Amaryll. t.* 12. *f.* 5, 6. (*nec* 8, 9.)

Cœtocapnia geminiflora. *Link et Otto, Pl. Rar. Berol. p.* 35. *t.* 18.

A native, according to La Llave and Lexarça, of the mountains of Valladolid and Miciciacan, in Mexico; and it has been sent to Sir Charles Leman from the Real del Monte Mines, whence the roots of our plants were sent by Mr. Repper. It is easily cultivated in a warm greenhouse, and is an infinitely more beautiful plant than Messrs. Link and Otto's figure, above quoted, represents it to be. The flowers, usually geminate in the upper part of the raceme, are graceful, always drooping, and richly coloured. With us it blossoms in July.

Descr. *Root* a somewhat elongated descending *tuber*, tunicated

in our wild specimens, sending down several large, thick, fleshy *radicles*. *Leaves* mainly from the root, from a broad, sheathing base, linear-subulate, carinate, spreading, outer ones the longest. *Stem* (or leafy *scape*) about a foot high, bearing distant, small, lanceolate, erect and appressed leaves, gradually becoming bracteas, among the flowers. *Raceme* terminal; *bracteas* three at the base of each flower or pair of flowers, one longer than the pedicel, the other shorter. *Pedicels* single-flowered, solitary below, geminate in the upper part of the inflorescence. *Flowers* rich orange-red, quite drooping. *Perianth* about an inch and a quarter long, much curved downwards, between tubular and infundibuliform, a little swelling at the base, where it is adherent with the ovary, the limb very short, spreading, of six rounded, acute lobes. *Stamens* six, included, inserted near the base of the perianth. *Anthers* linear. *Ovary* oval. *Style* longer than the perianth, a good deal protruded. *Stigma* three-lobed.

Fig. 1. Flower laid open. 2. Transverse section of an ovary :—*magnified.*

F.Reeve, imp.

Tab. 4742.

ERYTHROCHITON Brasiliense.

Brazilian Erythrochiton.

Nat. Ord. Rutaceæ.—Pentandria Monogynia.

Gen. Char. Calyx magnus, coloratus, tubulosus, *tubo* compresso, quinquecostato, *limbi* bilabiati *lobis* æqualibus, integris vel superiore trifido. *Corolla* hypogyna, gamopetala, subhypocraterimorpha, *tubo* calycem æquante, *limbi* quinquepartiti laciniis æqualibus, patentibus. *Stamina* 5, omnia fertilia, tubo corollæ breviora et eidem adglutinata, limbi lobis alterna; *filamenta* complanata, subulato-triangularia, basi in tubum brevissimum coalita; *antheræ* introrsæ, biloculares, lanceolatæ, erectæ, muticæ, longitudinaliter dehiscentes. *Ovaria* 5, disco urceolato glanduloso cincta et superata, unilocularia. *Ovula* gemina, suturæ ventrali superpositæ inserta, superius adscendens, inferius pendulum. *Capsula* pentacocca, *coccis* bivalvibus, *endocarpio* cartilagineo, soluto, elastice bilobo, basi membranacea cum seminibus secedente, dispermo vel abortu monospermo. *Semina* reniformia, sinu umbilicata, *testa* coriacea tuberculato-muricata.—Arbuscula *Brasiliensis;* foliis *alternis, simplicibus, petiolatis, lanceolatis, longissimis, integerrimis, glabris;* ramulis *axillaribus, subaphyllis,* floriferis *pedunculos longissimos mentientibus;* floribus *in axilla folii bracteæformis duobus vel pluribus fasciculatis, breviter pedunculatis;* pedunculo *basi articulato, bibracteolato;* calycibus *rubris;* corollis *albis. Endl.*

Erythrochiton *Brasiliense.*

Erythrochiton Brasiliense. *Nees et Mart. in Nov. Act. Acad. Cæs. Nat. Cur. v.* 11. *p.* 150 *et* 166. *t.* 18*c et* 22. *Lindl. Bot. Reg.* 1843, *t.* 47.

A Brazilian *Erythrochiton,* with a Palm-like habit; the stem being erect and naked, in its native country said to be ten feet high, unbranched, and bearing a tuft of very long leathery leaves at the extremity, together with the long peduncles, which Endlicher and others consider axillary, aphyllous, floriferous branches. The flowers are large and particularly handsome, the calyx being red, the corolla white. It is a great ornament to our stoves, and blossoms frequently and almost throughout the whole year.

Descr. Our plant is about three feet high, including the ample terminal foliage, unbranched. *Leaves* large, two feet and more long, broadly lanceolate, subcoriaceous, entire, dark glossy green, tapering below into a terete *petiole,* with a swollen joint

two inches from the base. *Peduncles* often two or three from the same plant, a foot and a half or more long, axillary, solitary, angled, thick, erect, bearing from eight to ten flowers opening in succession. *Pedicels* short, thick. *Calyx* large, somewhat inflated, red, an inch and a half and more long, two-lipped, one lip often again divided: *lips* entire. *Corolla* large, white, fleshy, salver-shaped: *tube* scarcely longer than the calyx: *limb* of five spreading, obovate segments. *Stamens* exserted, attached to the mouth of the corolla. *Ovary* five-lobed, surrounded by a deep fleshy cup: *lobes* two-seeded. *Style* as long as the tube of the corolla. *Stigma* a depressed, obscurely five-lobed head. Young *fruit* consists of five, ovate, somewhat triangular, acute nucules.

Fig. 1. Stamen. 2. Pistil and hypogynous cup. 3. Cup cut through vertically. 4. Ovary cut through transversely:—*magnified*.

L.

Tab. 4743.

SCHEERIA Mexicana, *Seem.*

Mexican Scheeria.

Nat. Ord. Gesneriaceæ.—Didynamia Angiospermia.

Gen. Char. Calyx tubo cum ovario connato, *limbo* 5-partito æquali. *Corolla* perigyna, infundibuliformis, *tubo* supra ad basin gibbo, *fauce* ampliata, *limbo* 5-partito. *Stamina* corollæ tubo inserta, 4, didynama, inclusa, cum rudimento quinti; *antheræ* biloculares, sub anthesin cohærentes. *Ovarium* basi calyci cohærens, *disco* annulari cinctum, uniloculare, pluriovulatum. *Stylus* simplex; *stigma* infundibuliforme. *Capsula* unilocularis, bivalvis, valvis medio placentiferis. —Herba *Mexicana*, stolonibus *perennantibus squamosis*, caule *erecto foliis calyci-busque hirsutis*, foliis *oppositis petiolatis ovatis acuminatis serratis*, floribus *axillaribus solitariis*, corollis *amplis, extus pubescenti-hirsutis, intus puberulis, purpureis vel cærulescentibus. Seem. in Bot. Herald, ined.*

Scheeria *Mexicana. Seem. l. c.*

Achimenes Scheerii. *Hort. Germ.* Variat:—

α. *purpurea, Seem. l. c.;* caule nervisque foliorum plus minusve purpurascentibus; floribus purpureis. Tab. nostr. 4743.

β. *cærulescens Seem. l. c.;* caule foliisque viridibus, floribus cærulescentibus.

The roots of both varieties here enumerated were presented to the Royal Botanic Gardens at Kew by Frederick Scheer, Esq., who received them in 1850, through J. Potts, Esq., from Chihuahua, one of the northern states of Mexico. They began to flower with us towards the autumn of 1852, but although they attracted considerable attention at that time, we were not aware until now that these plants were really so ornamental as they are, and that they could be so much improved by cultivation, especially as Mr. Potts in his original memorandum terms the blossoms "little bell-shaped flowers." Having now well-grown specimens before us, we have no hesitation in predicting that *Scheeria Mexicana* will become a universal favourite, and that in a few years it will be found in every garden.

The genus *Scheeria* is named in compliment to Frederick Scheer, Esq., to whom our gardens are indebted for the intro-

duction of several other ornamental plants, and to whose successful study of *Cactaceæ* science owes many interesting additions. The genus is closely allied to *Gloxinia* (§ Salisia, *Regel*) and *Achimenes;* from the former, considering as its type the *Gloxinia maculata*, L'Hérit. (Martynia perennis, *Linn.*), upon which the genus was founded. It differs in having the spur (*gibba*) on the upper side of the corolla more developed and no inflation on the under side; while from the latter (*Achimenes*) it is easily distinguished by its truly infundibuliform, not bilobed, stigma. In habit it resembles the genus *Locheria*, Reg., which includes the *Achimenes hirsuta*, *A. pedunculata*, and *A. multiflora* of botanists. *Seem.*

Fig. 1. Stamens and base of the corolla. 2. Pistil:—*magnified.*

Tab. 4744.

BERBERIS concinna, *Hook. fil.*

Neat Berberry.

Nat. Ord. Berberidaceæ.—Hexandria Monogynia.

Gen. Char. (*Vide supra* Tab. 4308.)

Berberis *concinna;* fruticulus demissus, cæspitosus, ramosissimus, spinis gracilibus tripartitis, foliis parvis obovatis aristatis grosse spinuloso-dentatis coriaceis margine incrassatis superne læte viridibus subtus albo-glaucis, pedicellis solitariis (rarius binis) unifloris (rarius bifloris), sepalis exterioribus interioribus dimidio minoribus, baccis magnis oblongis, stigmate sessili, seminibus 5–8. *J.D.H.*

A very beautiful and distinct little species, allied to the *B. Sibirica*, also a single-flowered plant, but readily distinguished by the long tripartite spines, slender pedicels, and glaucous leaves; the latter, however constant a character in both our wild and cultivated specimens, is not a constant one in other species of the genus, and hence may prove variable in this. The seeds were gathered from small bushes growing in the Lachen valley of the Sikkim-Himalaya, at an elevation of 12,000 to 13,000 feet; it there formed a small low bush, one to three feet high, with spreading almost prostrate branches, thickly covered with small leaves of a deep-green hue, and polished above, snowy-white and glaucous below; these colours, the large oblong scarlet berries, and red branchlets giving the shrub a singularly neat and pretty appearance when in fruit. The specimens in the Royal Gardens at Kew have come up perfectly resembling wild ones, and flourish luxuriantly in an open border.

Descr. *Branches* spreading, slender, deeply furrowed, covered with red or grey bark. *Spines* slender, tripartite, spreading. *Leaves* an inch long and less, obovate, rounded at the tip and aristate, surrounded by spinulose teeth, margin thickened, upper surface bright glossy-green, under glaucous: petiole very short,

articulate with the lamina. *Pedicels* longer than the leaves, slender, solitary (rarely two together), one- (rarely two-) flowered. *Flower* yellow, pendent, globose, deep-yellow; outer *sepals* larger than usual in the genus, more than half as long as the inner. *Berries* red, on dried specimens oblong, fleshy, very large, half to two-thirds of an inch long, with several (five to eight) small seeds.

Fig. 1 and 2. Flowers. 3. Petal and stamen. 4. Ovary. 5. Berry:—*all but fig.* 5 *magnified.*

Tab. 4745.

HÆMANTHUS INSIGNIS.

Showy Hæmanthus.

Nat. Ord. Amaryllidaceæ.—Hexandria Monogynia.

Gen. Char. Perigonium superum, corollaceum, *limbo* 6-partito, regulari, deciduo; *tubo* recto; laciniis angustis, 1–3-nerviis, æqualibus, erectis vel stellato-patentibus. *Stamina* 6, summo tubo inserta, erecta, exserta; alterna (petalina?) longiora. *Filamenta* filiformia. *Antheræ* oblongæ, utrinque bifidæ, dorso supra basin affixæ. *Ovarium* inferum, triloculare; *ovula* in loculis solitaria vel gemina, collateralia, pendula (pauca e loculorum angulo centrali adscendentia vel pendula, *Endl.*), anatropa. *Columna* stylina filiformis, recta. *Stigma* simplex, obsolete trilobum vel trifidum. *Bacca* globosa vel oblonga, abortu 1–3-locularis. *Semina* in loculis solitaria, loculum replentia; *testa* membranacea, adnata; *raphe* immersa; *hilum* basilare chalazæ apicali discolori jungens. *Embryo* minimus, in basi albuminis dense carnosi; extremitate radiculari hilum attingente.—Herbæ, *paucis Africanis tropicis exceptis*, Capenses, *bulbiferæ, scapigeræ, glabræ vel pubescentes;* bulbo *tunicato, sæpius bifariam squamoso;* folia *pauca, sæpius bina, coriacea, crassiuscula, plerumque plana, orbiculata, erecta vel humistrata, rarius angusta, elongata, canaliculata, rarissime petiolata, oblonga,* petiolis *vaginantibus.* Scapus *brevis, solidus, plerumque compressus, basi sæpius bracteis duabus radicalibus interdum coloratis stipatus, multiflorus.* Flores *crebri, pedicellati, umbellati, erecti,* bracteis *angustis ramentaceis interstincti.* Spatha *ut plurimum polyphylla,* foliolis *erectis, coloratis,* umbella *longioribus, rarius diphylla vel reflexa. Kth. ex Endl.*

Hæmanthus *insignis;* elata subcaulescens, foliis pluribus oblongis submembranaceis inferne longe cylindraceo-vaginatis, vaginis inferne punctato-maculatis, scapo caulis foliiferi prope basin orto inferne tereti maculato superne compresso-angulato, involucri polyphylli bracteis amplis foliaceis exterioribus umbella longioribus, floribus numerosissimis, perianthii laciniis erectis.

A truly fine and handsome plant. Bulbs were sent to us from Natal, through the kindness of the Rev. Mr. Rouper, of Wichhall, near Brighton. The near ally of this is *H. puniceus*, most unsatisfactorily figured in Bot. Mag. t. 1315, much worse in Redouté's Liliacées, tab. 320, and very faithfully in Trew, Ehret. t. 44, and to *H. magnificus*, if we may judge by Mr. Herbert having formerly called it *H. puniceus, var. magnifica;* that is, it belongs

to the group or section having "folia cylindraceo-vaginantia undulata, limbus erectus." Our species is at once known by its large size, and the great length of the very foliaceous involucre. It flowered with us in August, 1853, in a cool frame.

Descr. From a large *bulb* arises a stout spotted cylindrical *stem*, formed by the sheathing elongated base of several large, oblong, rather acute, waved, membranaceous *leaves*, in perfection along with the flowers. From near the base of the stem, in the axil of some imperfectly developed leaves, the stout *peduncle* appears, spotted and cylindrical at the base, compressed and angled above. *Umbel* of very numerous, erect, orange-coloured, shortly pedicelled *flowers*, very compact, and surrounded by a many-leaved involucre; outer leaves, or *bracteas*, resembling true leaves, much longer than the umbel, inner bracteas smaller. *Bracteoles* at the base of the pedicels small, subulate. *Perianth* infundibuliform, cut more than half (nearly two-thirds) of the way down, into six, linear laciniæ, slightly unguiculate at the point. *Stamens* six; *filaments* longer than the perianth, subulate. *Anthers* oblong, subsagittate. *Ovary* trigonal, adnate with the base of the perianth. *Style* a little longer than the stamens. *Stigma* of three very small lobes.

Fig. 1. Flower and bracteole. 2. Pistil:—*magnified.*

1744.

Tab. 4746.

BEGONIA biserrata.

Doubly-serrated Begonia.

Nat. Ord. Begoniaceæ.—Monœcia Polyandria.

Gen. Char. (*Vide supra*, Tab. 4172.)

Begonia *biserrata;* erecta laxa, tota villis albis mollibus sparsis pilosa, foliis sublonge petiolatis oblique late palmato-lobatis subcordatis lobis 4–5 inæqualibus inciso-serratis ciliatis, paniculis dichotomis axillaribus terminalibusque, floribus nutantibus masculis tetrasepalis fœmineis 5–6-sepalis interioribus triplo minoribus, sepalis omnibus cordatis inciso- molliter ciliato-serratis, fructu 3-alato grosse pilis albis echinato, alis brevibus obtusis grosse ciliatis unica vix duplo majore.

Begonia biserrata. *Lindl. Journ. of Hort. Soc. v.* 2. *p.* 313. *Walp. Ann. Bot. Syst. v.* 3. *p.* 892.

Among an interesting collection of Begonias lately presented to us by William Wilson Saunders, Esq., is the present very well-marked species, said to have been discovered in Guatemala, by G. U. Skinner, Esq. Like all other Begonias, it requires to be frequently increased by cuttings, and then we are more sure of good flowering specimens. It blossoms with us, in the stove, in the summer months, and makes a very handsome appearance.

Descr. Two to nearly three feet high, lax, yet capable of supporting itself. *Stem* terete, villous, as is every part of the plant, except the inside of the flowers, with soft white scattered hairs. *Leaves* alternate, on rather long petioles, broadly but obliquely cordate, palmato-lobate, lobes about five, but unequal, and subinciso-serrate, ciliated; lower ones sometimes almost a span broad, the upper ones gradually smaller: all submembranaceous, soft pale yellowish-green. *Panicles* cymose, longer than the leaves, axillary and terminal, dichotomously divided, bracteated with small ovato-lanceolate *bracts* at the setting on of the branches. *Male flowers* large, rose-coloured and white. *Sepals*

four, spreading; two outer ovato-cordate, incised and ciliato-serrate; two inner small and more ovate. *Female* of five or six *sepals*, less spreading; three outer cordate, the two or three inner small, inciso-serrate, and ciliated. Immature *fruit* clothed with stout, soft, subulate, long, white hairs, three-winged, two of the wings short and rounded, the third scarcely twice as large, and with an obtuse angle above.

Fig. 1. Female flower. 2. Pistil, from which the sepals are removed:—*magnified.*

The following memorandum has been communicated by our excellent friend Dr. Wallich, in connection with his remarks on the genus *Methonica*, under Tab. 4723 (note) of the present volume:—

"As you have adopted my view of the *Methonica* question, I beg to forward the following corroborative matter.

"The name is of Sanscrita origin. Prof. H. H. Wilson tells me that '*Mettoni* or *Mentoni*, according to the Rev. Mr. Bailey's Malayalim Dictionary, is a poisonous plant, *Leea hirta*, of which one root is supposed to be poison, the other the antidote;' and he thinks it probable that those names may be derived from the Sanscrita *Mithuna*, a pair, a brace. Hermann's name is therefore identical with those in the Malayalim, which language is almost entirely of Sanscrita descent. Rheede's *Mendoni* (Hort. Mal. vii. p. 107. t. 57) has the same origin. As to *Leea hirta*, this innocent shrub may be considered as having nothing whatever to do with the matter; and the extravagant fancy about the poison and antidote in one root, points at the geminate root of *Methonica Malabarorum*, and its supposed poisonous property."

Tab. 4747.

METTERNICHIA Principis.

Princely Metternichia.

Nat. Ord. Solanaceæ.—Pentandria Monogynia.

Gen. Char. Calyx campanulatus, inæqualiter 4–5–6-fidus, persistens, laciniis subæqualibus v. inæqualibus, 2–3 sæpe duplo majoribus foliiformibus. *Corolla* infundibuliformis; *tubo* imo contracto et intus pubescente, superne amplo; *limbo* expanso, æstivatione profunde plicato; *laciniis* 5, brevibus, æqualibus, crenulato-undulatis. *Stamina* 5, corollæ contractione inserta, inclusa, 2 breviora; *filamenta* filiformia, basi dilatato-incrassata, imo pubescentia, superne glabra; *antheræ* ovales, 2-loculares, basifixæ, longitudinaliter dehiscentes. *Pistillum* staminibus paulo brevius. *Ovarium* sessile, biloculare; *ovulis* in loculis utrinque 8, in septi facie juxta basin ad nervos 2 parallelos 2–3-seriatim dispositis, ascendentibus, imbricatis, inferioribus exterioribus. *Stylus* simplex. *Stigma* bilamellatum, lamellis crassiusculis, margine revolutis. *Capsula* coriacea, lignosa, ovato-cylindracea, 2-locularis, apice septifrago-2-valvis, dissepimento libero, valvis demum semibifidis. *Semina* plurima (2–4, *Miers*) in quoque loculo, e dissepimenti basi adscendentia, longe linearia, utrinque acuminato-attenuata, margine ala membranacea cincta, ventre convexa, dorso carinata; *hilo* prope basin introrsum laterali; *testa* chartacea, ad endopleuram spongiosam adnata. *Embryo* in axi albuminis carnosi, tenuis, rectus; *cotyledonibus* linearibus, carnosis, radiculam inferam æquantibus.—Arbores *Brasilienses, frondosæ;* folia *alterna, breviter petiolata, coriacea aut subcoriacea, elliptica, penninervia, reticulata, integerrima, nitida*; flores *terminales, subsolitarii v. plurimi, subracemosi, fasciculati, ebracteati, speciosi, albi. Dunal, in DC.*

Metternichia *Principis;* caule arboreo, foliis lanceolato-ellipticis subtus pallidioribus, pedunculis brevibus petiolorum longitudine terminalibus subracemosis, calycis laciniis ovato-oblongis obtusiusculis uninerviis reticulatis. *Dun.*

Metternichia Principis. *Mikan, Delect. Fl. et Faun. Bras.* (*no No. or page*) *cum Ic. Mart. Fl. Brasil. Fasc. v.* 6. *p.* 227. *Dunal, in De Cand. Prodr. v.* 13. *p.* 594.

Metternichia Princeps. *Miers, in Hook. Lond. Journ. of Bot. v.* 5. *p.* 145.

Lisianthus ophiorrhiza. *Vell. Fl. Flum. v.* 2. *t.* 78.

A Brazilian genus, named in compliment to the distinguished Austrian Prince Metternich-Winneburg, of Ochsenhausen, etc. Its author and discoverer, Mikan, describes the flowers as inodorous, whereas with us they are powerfully and deliciously fragrant,

the greatest charm perhaps the plant possesses; for though the flowers are large, they are not showy, not more so than *Portlandia*, or other white corollas whose tubes have a tinge of green. Mikan referred the genus to *Convolvulaceæ*, Meisner to *Bignoniaceæ*, Lindley and Miers (with more propriety) to *Solanaceæ*, and the latter to a separate group, which he calls "*Metternichieæ*," along with *Sessea* and *Cestrum*. There is probably but one species. Dunal takes up, indeed, *M. affinis* of Presl, but as something more than doubtful; and he has a "*Metternichia? megalandra*,"—querying the genus,—a Colombian plant of Moritz (n. 827). *M. Principis* flowers with us, in the stove, in August.

Descr. Our flowering specimens constitute a *shrub* three to four feet high; in its native climate it attains a height of twenty-five feet: much branched, *branches* terete, and, as is every part of the plant, glabrous. *Peduncles* terminal and in the axils of the terminal leaves, short; or the inflorescence may be called a leafy, somewhat panicled *raceme*. *Calyx* campanulate, irregularly five-cleft, segments erect. *Corolla* white, broad-infundibuliform; the *tube* greenish, angled; *limb* spreading, large, plicate, as in *Solanum* or *Convolvulus*, cream-white, the five broad lobes bifid, and waved or plaited. *Stamens* five, exserted; *filaments* filiform, unequal. *Anthers* oblong. *Ovary* oval. *Style* longer than the stamens. *Stigma* two-lobed. *Capsule* an inch and a half or sometimes two inches long, cylindrical, tapering, five-valved, the base enclosed in the persistent calyx.

Fig. 1. Pistil. 2. Section of ovary:—*magnified.* 3. Capsule:—*nat. size.*

Fitch, del. et. lith.

F. Reeve, imp.

Tab. 4748.

CAMPANULA Vidalii.

Vidal's Bell-flower.

Nat. Ord. Campanulaceæ.—Pentandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4555.)

Campanula *Vidalii;* inferne fruticulosa, ramosa, viscida, ramis sulcatis, foliis (sæpe rosulatis) oblongo-spathulatis grosse serratis superioribus parvis bracteæformibus, floribus racemosis cernuis, pedicellis bracteolatis, lobis calycinis brevibus triangularibus, corolla urceolato-campanulata (alba), staminibus remotis, disco hypogyno amplo ambitu crasso aurantiaco.

Campanula Vidalii. *H. C. Wats. in Hook. Ic. Plant. t.* 684. *Walp. Repert. Bot. v.* 6. *p.* 387.

Campanula Vidaliana. *H. C. Wats.* "*Plants collected in the Azores, in* 1842, *n.* 113."

We gave a faithful representation from a dried specimen of this remarkable *Campanula* in our 'Icones Plantarum;' but our cultivated plant has a very different and really striking appearance. It has not (from want of age perhaps) become so ligneous nor so gouty; it has fewer rosulate leaves, and they are less crowded: but the flowers are larger and more numerous. The hypogynous disc of the flower is singularly broad, and surrounded by a thick, bright, orange-coloured annulus, on the outside of which the stamens are placed, distant from each other, and they never seem to incline over the disc, as is so common in other Bell-flowers. There seem to be no tangible characters for distinguishing it as a genus from *Campanula*. It has however a very peculiar habit: is a native of the Azores, and was detected on an insulated rock off the east coast of Flores, between Santa Cruz and Porta Delgada, by Captain Vidal, R.N. We are indebted for our living plants to H. C. Watson, Esq. They are quite hardy, and flower in August.

Descr. Everywhere glabrous and viscid. *Root* perennial. *Stem* one to two feet high, branching from the base; the old stems gouty and tortuous and subligneous below. Some of

the *branches* are short and sterile, bearing only rosules of more or less distant leaves; others are tall, and bear flowers and distant foliage: all are sulcated, somewhat clammy and glossy. *Leaves* three to four inches long, oblong-spathulate, thick and fleshy, firm, viscid, coarsely serrated, penniveined, the costa and veins prominent beneath: upper leaves passing into bracteas. *Flowers* large, more or less numerous, racemose, terminating the branches, drooping. *Pedicels* bracteated (with small leaves) at the base, and bearing about two *bracteoles* near the middle. *Calyx-tube* broad, turbinate, five-angled, and depressed between the angles; *lobes* spreading, triangular, acute, thick. *Corolla* white, between urceolate and campanulate, obscurely five-angled, the lobes triangular, moderately spreading. *Stamens* distant, inserted on the outside of a large orange-coloured *annulus* or margin to the broad hypogynous disc. *Filaments* dilated at the base. *Anthers* oblong. *Ovary* three-celled. *Placentas* two-lobed. *Style* remarkably thickened upwards, downy, short. *Stigmas* short, at first erect.

Fig. 1. Flower from which the corolla is removed. 2. Transverse section of an ovary. 3. Stamen:—*magnified.*

Fitch del.

F Reeve, imp

Tab. 4749.

PAPAVER PILOSUM.

Large Hairy Poppy.

Nat. Ord. Papaveraceæ.—Polyandria Monogynia.

Gen. Char. Sepala 2, convexa, decidua. *Petala* 4. *Stamina* numerosa. *Stylus* nullus. *Stigmata* 4–20, radiantia, sessilia super discum ovarium coronantem. *Capsula* obovata, 1-locularis, e carpellis 4–20 in thalami productione membranacea inclusis constans, sub stigmatum corona valvulis brevibus dehiscens. *Placentæ* intervalvulares, intus in dissepimenta incompleta productæ.—Herbæ *perennes, succo albo fœtæ;* pedunculi *ante florescentiam apice inflexi. De Cand.*

Papaver *pilosum;* elatum ramosum undique hispido-pilosum pilis patentibus, foliis radicalibus oblongis in petiolum longiusculum attenuatis pinnatifidis serratis, caulinis lato-oblongis inciso-serratis basi subcordatis amplexicaulibus sessilibus, petalis amplis miniatis basi albo-maculatis, capsulis (immaturis) oblongo-obovatis glabris.

Papaver pilosum. *Sm. Prodr. Fl. Græc. v.* 1. *p.* 350. *Fl. Græc. Sibth. v.* 5. *p.* 75. *t.* 402. *De Cand. Prodr. p.* 119.

Papaver Olympicum. *Sibth. MSS.*

A hardy herbaceous *Poppy*, we believe with perennial roots and large handsome brick-red flowers, having a pale spot at the base of each of the petals. When or by whom introduced into this country, or from what source our garden derived it, we have no record; but it is assuredly the *P. pilosum* of Smith and Sibthorpe, whose figure above quoted is very characteristic (Flora Græca, tab. 192). The plate immediately before that, in the Flora Græca, is *P. somniferum*, and we wonder that no notice is taken of the similarity of the two, for (in the absence of ripe capsules of our plant) they are very much alike: best distinguished by the absence of glaucous hue, greater breadth of foliage, copious hairiness (by no means always glabrous in *P. somniferum*), and brick-red petals of *P. pilosum*.

Descr. *Root* perennial? *Stem* two to three feet high, branched, terete, clothed with copious patent hairs (as are the leaves). *Root-leaves* elongated, oblong, tapering into a decided and rather long *petiole*, deeply sinuated and coarsely inciso-serrated; *stem-leaves*

broad-oblong, almost elliptical, sessile, cordate and amplexicaul at the base, the margin cut and serrated, uppermost one smaller and less cordate at the base. *Peduncles* single-flowered, drooping in bud. *Calyx* of two, elliptical, concave *sepals*, very hairy. *Corolla* of four, large, spreading, broadly rotundato-cuneate, brick-red *petals*, having a pale, nearly white spot at the base. *Stamens* very numerous, as long as the pistil. *Ovary* oblong-obovate, obscurely five-angled, glabrous. *Stigma* depressed, radiate.

Fig. 1. Immature capsule :—*nat. size.*

Fitch, del, et lith

F Reeve, imp

Tab. 4750.

DICTYANTHUS Pavonii.

Pavon's Dictyanthus.

Nat. Ord. Asclepiadeæ.—Pentandria Digynia.

Gen. Char. Calyx 5-partitus. *Corolla* speciosa, campanulata, 5-fida, laciniis ovatis obtusiusculis sursum reflexis eleganter reticulato-venosis, rete exili fuscescente. *Corona staminea* tubo adnata, *corpusculis* 5 sinubus oppositis spathulatis carnosulis subglandulosis reducta. *Gynostegium* parvum, tubo corollæ amplo inclusum. *Antheræ* membrana terminatæ, transversim et oblique dehiscentes, parvæ. *Massæ pollinis* clavatæ, subcompressæ, apice pellucido. *Stigma* carnosum, pentagonum, angulis prominentibus.—Suffrutex *volubilis Peruvianus;* folia *cordata, membranacea, longe petiolata;* pedunculi *petiolo breviores,* 1–2-*flori;* corollæ *speciosæ, bipollicares, reticulato-venosæ,* Huerniam campanulatam *mentientes. Dcne.*

Dictyanthus *Pavonii.*

Dictyanthus Pavonii. *Decaisne, in De Cand. Prodr. v.* 8. *p.* 605.

This is one among the remarkable forms of Asclepiadeous plants, a native of New Spain, where it was first detected by Pavon (whose name it bears). It has the habit of *Gonolobus* or some other *climbing* member of the family, with flowers so much resembling a *Stapelia*, or rather a *Huernia*, that it is said to bear the name of *Stapelia campanulata* in Pavon's MSS. We received our plants from Messrs. Henderson, of St. John's Wood Nursery, and also from Messrs. Rollisons, of Tooting. It requires the heat of the stove, and flowers copiously in September.

Descr. *Stems* climbing, long, branching, filiform, terete, slightly downy (as is the whole plant, except the flowers), tinged with purple. *Leaves* opposite, on moderately long, slender *petioles*, cordate or cordato-ovate, acuminate, membranaceous, entire, veined and reticulated, having a deep and obtuse sinus at the base. *Peduncles* axillary, solitary, longer than the petioles, but shorter than the leaves, generally three-flowered. *Calyx* cut to the base into five, erecto-patent, lanceolate segments, with their margins reflexed. *Corolla* large, rotate, with the *tube* large, thick

and fleshy, semiglobose, pale green, longitudinally striated and having five furrows, so that between the furrows the outer surface is very convex, corresponding with five depressions or cavities, within, which are more distinctly striated with longitudinal fine brown lines than the external surface: the *limb* is broad, cut half-way down into five spreading ovate *lobes*, whose margins are recurved: the whole disc is pale green, beautifully striated concentrically, with fine brown lines which meet and hence become reticulated. The *staminal crown* is adnate with the tube and has five spreading lobes or horns. *Gynostegium* small, conical.

Fig. 1. Vertical section of the tube, showing the cavities within and the staminal crown in the centre:—*magnified.*

2.

1.

Fitch, del. et lith.

F. Reeve, imp.

Tab. 4751.

PLUMIERIA Jamesoni.

Jameson's Plumieria.

Nat. Ord. Apocynaceæ.—Pentandria Digynia.

Gen. Char. Calyx apice 5-lobus, lobis rotundatis, æstivatione 5-unciali, v. integer. *Corolla tubo* tenui, cylindraceo, recto v. incurvo; *fauce* exappendiculata, *lobis* 5, obovato-oblongis, æstivatione dextrorsum convoluto-imbricatis, tubo plerumque subæqualibus. *Stamina* 5, basi corollæ inserta; *filamentis* brevissimis; *antheris* oblongis, basi dilatatis, apice obtusiusculis. *Ovaria* 2, ovoidea, toro seu disco tori continuatione immersa, cum eo dorso adhærentia, juniora fere infera, inter se tamen distincta, serius supera. *Ovula* plurima, suturæ ventrali adfixa. *Stylus* 1. *Stigma* oblongum, apice bifidum. *Folliculi* 2, oblongi linearesve, nunc ventricosi, plerumque deflexi, polyspermi, suturæ ventrali dehiscentes, externe carnosuli. *Semina* oblonga, compressa, hinc (verisim. superne) membranaceo-alata. *Hilus* ad $\frac{1}{4}$ longitudinis seminis ab extrem. super. ad alam, ovatus. *Ala* laciniata, semine brevior. *Albumen* 0. *Cotyledones* amplæ, ovales, cordatæ, facie adpressæ, foliaceæ. *Radicula* cylindrica, brevissima, extremitatem nudam spectans.—Arbusculæ *Americanæ v. rarius Asiaticæ, tropicæ;* ramis *crassis, foliorum cicatricibus amplis notatis;* foliis *alternis, magnis, obtusis vel acumine acuto, integris, nervis lateralibus centrali fere perpendicularibus, in nervum prope peripheriam conjunctis;* cymis *terminalibus, corymbosis*; floribus *amplis, speciosis, sæpe fragrantibus, geminatim intra bracteas amplas (an semper?) caducas dispositis, altero magis centrali ante alium florente. Alph. De Cand.*

Plumieria *Jamesoni;* foliis amplis lato-oblongis utrinque attenuatis subtus pallidioribus reticulatis, pedunculis elongatis pedicellisque rubris, cymis multifloris, calycis lobis parvis brevibus erectis, corollæ luteæ (extus rubro-pictis) lobis ovato-ellipticis acutis.

A handsome stove-plant, received from Professor Jameson, who detected it in the vicinity of Guayaquil. It belongs to M. Alphonse De Candolle's first section of the genus "Lobi calycis breves, obtusissimi," and to the second section of the species "Flores albi, *lutei* vel ex luteo variegati." Yet in that group there is no species the description of which satisfactorily accords with this. Its great beauty consists in the fine red of the peduncles and pedicels and outside of the flower, and the rich yellow of the upper or inner side of the corolla, and which, together with the

great breadth of the lobes of the corolla and their acute apices, constitute the chief specific distinction. In those particulars I can find none to accord with it. It flowers in July in our stoves.

Descr. Our *plant* is not more than four feet high, branched above, the *stem* and *branches* woody. *Leaves* mostly confined to the apex of the branches, large, broad-oblong, on rather long nearly terete *petioles* (furrowed on the upper side), attenuated at the base, acuminated at the extremity, penninerved, the *nerves* parallel and approximate, dark green above, paler beneath and reticulated between the nerves. *Peduncle terminal*, a span and more long, erect, firm, stout, terete, bearing at the extremity a *cyme* of many compact *flowers*. *Pedicels* articulated, red (sometimes partly green). *Calyx* small, of five short, rounded, erect *lobes*, red, tipped with green. *Corolla* large, hypocrateriform. *Tube* long, narrow, yellow, deeply tinged with red. *Limb* of five, large, spreading and moderately oblique, rich yellow (slightly tinged with red), acute *segments*. Mouth of the *corolla* red. *Stamens* inserted at the base of the tube of the corolla. *Anthers* sagittate, nearly sessile. *Ovaries* two, united in the style. *Stigmas* two small points.

Fig. 1. Pistil and stamens. 2. Single stamen :—*magnified*.

4752.

Fitch. del. et lith.

F. Reeve, imp.

Tab. 4752.

PASSIFLORA Medusæa.

Medusean Passion-flower.

Nat. Ord. Passifloreæ.—Gynandria Pentandria.

Gen. Char. (*Vide supra*, Tab. 4406.)

Passiflora *Medusæa;* foliis semiovatis 3-nerviis subtus glandulosis basi acutis apice bilobis erecto-patentibus acutis sinu mucronato, petiolis eglandulosis, pedunculis binis bracteolatis unifloris, petalis lineari-lanceolatis minimis, coronæ filamentosæ serie externa patentissima sepalis paulo breviore, interiore erecta brevi.

Passiflora Medusæa. *Lemaire in Van Houtte, Fl. des Serres, v.* 4. *p.* 375 *b, and* 5, *tab.* 528. ***Paxt. and Lindl. Fl. Gard. v.*** 1. ***p.*** 89. ***f.*** 59.

A supposed Mexican plant, having some affinity with *P. biflora*, but the filamentous crown is very different, and the petals and sepals are nearly uniform, and to *P. Mexicana*, Juss., but there the leaves are different, the flowers are much smaller, and there are no petals. At first sight it would seem to belong to the section "*Cicca*," of De Candolle, where the perianth has only five lobes, or, in other words, where the petals are wanting; but petals do exist here, although they are so small and so covered by the exterior ray of copious filaments, that they are not easily seen. It flowers in the stove in November, trained against the rafters of the house.

Descr. A graceful *climber*, with slender, attenuated *branches*. *Leaves* lunate, that is, they are half-ovate, acute at the base, cut by a broad sinus above into two broad, acute, erecto-patent lobes, with a mucro in the sinus. There are three primary nerves, reaching, two of them to the apex of the lobes, and the central one terminating in the mucro of the sinus; between the central and lateral nerves is a row of conspicuous, orbicular, pellucid *glands*, most apparent on the underside. *Petioles* much shorter

than the leaf, eglandulose. *Cirrhi* simply slender, spirally twisted. *Peduncles* two, from the axils of the leaves, nearly as long as the leaf, bearing a few, small, subulate *bracteoles*, and a solitary *flower*. *Flowers* rather small. *Calyx* pale yellow-green, cut to the base into five spreading, oblong, obtuse sepals. *Sepals* very minute, white. *Filamentous crown* in two series, ochraceous-red: outer series of numerous long, slender, wavy, spreading filaments, nearly as long as the calyx; inner of numerous compact, erect, or slightly incurved ones. *Column* as long as the calyx, red, bearing five red recurved *filaments*, each with a green, linear-oblong *anther*. *Ovary* globose, with three reflexo-patent *styles*, tipped with a clubbed *stigma*.

Fig. 1. Portion of a flower:—*magnified*.

1.
2.
3.

Tab. 4753.

CIRRHOPETALUM cornutum.

Horn-bearing Cirrhopetalum.

Nat. Ord. Orchidaceæ.—Gynandria Monandria.

Gen. Char. Sepala ringentia: lateralibus acuminatis, valde obliquis, basi productæ columnæ adnatis, supremo multo longioribus. *Petala* nana, apiculata. *Labellum* integrum, cum basi columnæ articulatum. *Columna* minima, basi longe producta, apice cornubus duobus petaloideis. *Anthera* bilocularis. *Pollinia* 4, quorum 2 interiora multo minora, lamelliformia.—Herbæ *epiphytæ*, rhizomate *repente, pseudobulbos monophyllos gerente.* Folia *coriacea, avenia.* Flores *dense* ***racemosi, nunc radiati, in apice scapi radicalis. Lindl.***

Cirrhopetalum *cornutum;* pseudobulbis oblongo-ovatis lævibus vaginatis, folio solitario oblongo-ligulato in petiolum attenuato, scapis radicalibus vaginatis gracilibus folio brevioribus, floribus terminalibus eleganter radiatim umbellatis, sepalo superiore ovato concavo ciliato, sepalis lateralibus maximis linearibus elongatis in cornu connatis purpureo-sanguineis, petalis parvis ovatis concavis ciliatis, labello ovato-acuminato carnoso recurvo, columna bicuspidata.

Cirrhopetalum cornutum. *Lindl. in Bot. Mag.* 1838. *Misc. n.* 138; *and* 1843, *sub. t.* 49. *n.* 4.

This charming *Cirrhopetalum* was received through Mr. Simons, from the Khasya hills, in eastern Bengal, and blossomed in our Orchideous stove in September, 1853. Its flowers, very curious in structure, are arranged in a whorled or radiating umbel; but their odour is far from agreeable, resembling that of bad glue. In the general structure of the flower, not in the inflorescence, the species approaches the *C. Macraei* of Ceylon (see our Tab. 4422), but the sepals and petals, as well as the colour, are considerably different. The lateral sepals are so united as to resemble a large spur or horn of the flower.

Descr. *Pseudo-bulbs*, several arising from a creeping caudex, oblong-ovate, green, smooth, more or less sheathed with large membranaceous scales, and terminated by a rather large, oblong, coriaceous, obtuse leaf, more than a span in length, and tapering below into an imperfect petiole, by which it is set on the top

of the bulb. *Scapes* one or two from the same pseudo-bulb, and arising from its very base, shorter than the leaf, slender, wiry, erect, jointed in the lower half, and there sheathed with membranaceous brown scales, bearing at the top a radiating *umbel* of dark purple and white flowers. *Ovary* small, tapering into a short peduncle. *Sepals* extremely unequal: upper one small, ovate, very concave, greenish-white, sprinkled with purple, acute, the margin ciliated; lateral ones more than two inches long, pendent, the two meeting at the edges, so as to appear one, broad linear, dark purple-blood-colour, green at the tip, nearly white and spotted at the base. *Petals* in shape and colour resembling the upper sepal, but smaller and more ciliated, standing forward, and, with the upper sepal, protecting the organs of fructification. *Labellum* articulated, as it were, on the prolonged base of the column, bent up against the front of the column, and itself ovate, fleshy, recurved, white, spotted. *Column* short, bicuspidate. *Anther*-case sunk between the two points, hemispherical. *Pollen-masses* of four lobes, two small and two large.

Fig. 1. Flower. 2. Column, anther, and labellum. 3. Pollen-masses:—*all magnified.*

F.Reeve,imp.

Tab. 4754.

COLEUS Blumei.

Blume's Coleus.

Nat. Ord. Labiatæ.—Didynamia Gymnospermia.

Gen. Char. Calyx ovato-campanulatus, fructifer, declinatus vel reflexus, rarius suberectus, fauce intus nuda vel hispida, quinquedentatus vel bilabiatus, dente supremo ovato membranaceo marginibus rarius decurrentibus, inferioribus angustioribus, omnibus acutis vel lateralibus ovato-truncatis, 2 infimis sæpe inter se connatis. *Corolla tubo* exserto declinato, decurvo vel sæpius defracto, fauce inflata vel æquali; *limbo* bilabiato, labio superiore abbreviato obtuse 3–4-fido, inferiore integro elongato concavo, sæpius cymbiformi, genitalia involvente. *Stamina* 4. *Filamenta* edentula, basi in tubum stylum vaginantem connexa. *Stylus* apice subulatus, æqualiter bifidus. *Nuculæ* subrotundo-compressæ, læves.—Herbæ *annuæ vel basi perennantes, rarius frutices.* Verticillastri *sæpius multiflori, nunc densissimi, nunc laxi, cymbiformes;* pedunculo *communi utriusque cymæ ramisve utrinque binis, plus minusve elongatis.* Folia *floralia bracteæformia, ante anthesin ad apicem racemorum plus minusve comosa, per anthesin decidua vel rarius subpersistentia, reflexa. Species plerumque* Asiaticæ, *perpaucæ* Africanæ. *Benth.*

Coleus *Blumei;* foliis ovatis acuminatis grosse obtuse serratis basi acutis et integerrimis utrinque puberulis (superne maculis atro-purpureis pictis), verticillastris distinctis, pedicellis racemosis secundis, calycis hirsuti labio inferiore trifido, lacinia intermedia longiore semibifida. *Benth.*

Coleus Blumei. *Benth. Lab. p.* 56. *in De Cand. Prodr. v.* 12. *p.* 75.

Plectranthus scutellarioides. *Blume, Bijdr. p.* 837. (*non Br.*)

We are indebted for our first knowledge of this plant in a living state to Mr. Low, of Clapton Nursery, who received the plant from Belgium, as a native of Java; but even there, Blume speaks of it only as cultivated in gardens. As such it is an extremely ornamental plant, the leaves being intensely mottled and blotched with deep purple or sanguineous stains, while the long whorled racemes of flowers are prettily varied with purple and white. Nothing is more easily cultivated, and no stove should be without it, for it flowers through the summer, and till the setting in of the winter.

Descr. The plants in our possession vary from a foot to a foot

and a half high, throughout nearly herbaceous or suffruticose only at the base; *stems* and *branches* square, the angles rather obtuse, a little hairy at the joints. *Leaves* rhomboidal ovate, membranaceous, deeply and coarsely inciso-serrate at the margin, the apex acuminate, entire as well as the base, which is gradually attenuated into a more or less elongated *petiole*, hairy at the sides: the colour of the leaf is yellowish-green, the whole disc dark purple or sanguineous, breaking into spots near the margin; the principal nerves are obliquely erect, running almost parallel to the midrib. *Inflorescence* a terminal elongated whorled spike or raceme. *Whorls* of about six flowers or more. *Pedicels* very short. *Calyx* small, hairy. *Tube* short, subglobose: *limb* five-lobed; upper lobe much the largest, oblong, not decurrent at the base, two lateral lobes short, two inferior ones linear, approximate. *Corolla* purple and white, moderately large, resupinate, hairy on the back: *tube* funnel-shaped, suddenly refracted: *limb* of two large lips; lower one ovate acute, cymbiform, the upper shorter, broad, oval reflexed, spreading, three-lobed, the middle lobe bifid. *Stamens* and *style* included in the hollow of the inferior lip.

Fig. 1. Front; and 2, Side view of a flower:—*magnified*.

Tab. 4755.

DENDROBIUM CYMBIDIOIDES.

Cymbidium-like Dendrobium.

Nat. Ord. Orchidaceæ.—Gynandria Monandria.

Gen. Char. *Sepala* membranacea, erecta vel patentia, lateralibus majoribus obliquis cum basi producta columnæ connatis. *Petala* sepalo supremo sæpius majora, nunc minora, semper membranacea. *Labellum* cum pede columnæ articulatum vel connatum, semper sessile, indivisum vel trilobum, sæpius membranaceum, nunc appendiculatum. *Columna* semiteres, basi longe producta. *Anthera* bipollicaris. *Pollinia* 4, per paria collateralia.—Herbæ *epiphytæ, nunc caulescentes, nunc rhizomate repente pseudobulbifero.* Folia *plana, sæpius venosa.* Flores ***solitarii fasciculati v. racemosi, speciosi.*** ***Lindl.***

Dendrobium *cymbidioides;* pseudobulbis oblongo-ovatis 4–5-gonis, foliis binis oblongis retusis pseudobulbos vix excedentibus, scapo terminali 5–7-floro, sepalis petalis lineari-oblongis obtusis æqualibus patentibus ochraceis, labelli disco basi abrupte calloso-lineato, lobo medio ovato tumido.

Dendrobium cymbidioides. *Lindl. Gen. et Spec. Orchid. p.* 77.

Desmotrichum cymbidiodes. *Blume, Bijdr. p.* 355.

A plant very little known either in our gardens or herbaria, of which we received living specimens from Messrs. Rollison, of the Tooting Nursery, without any name. It proves to be the *Desmotrichum cymbidioides* of Blume, native of the lofty wooded mountains of Gede and Salak in Java, a genus of that author, of which all the species have, we think with propriety, by Dr. Lindley, been incorporated with or restored to *Dendrobium.* Dr. Lindley had indeed seen no specimens; but drawings of this were sent to him by Professor Reinwardt, and of a closely allied species, *Desmotrichum triflorum,* "scarcely differing from this, but in its uniformly tetragonal pseudo-bulbs, and cream-coloured flowers always appearing in threes."

Descr. *Pseudo-bulbs* ovate or oblong-ovate, angled, with four or five angles, and clustered upon a short creeping caudex, generally more or less sheathed with long membranaceous scales, bearing at the summit two erecto-patent, oblong, obtuse or rather

retuse, coriaceous *leaves*, not twice so long as the pseudo-bulbs. *Scape* terminal, arising from the top of the pseudo-bulb, between the two leaves, erect, terete, scarcely scaly, bearing from five to seven moderately large *flowers*. *Ovaries* pedunculiform, nearly three inches long, erecto-patent, clavate. *Sepals* and *petals* uniform, linear-oblong, spreading, ochraceous. *Labellum* much shorter than the sepals, oblong-cordate, white, sprinkled near the base within with dark-purple linear blotches, three-lobed, bearing on the disc tubercles arranged in two or three lines or series; the side lobes are short, obtuse, incurved; the terminal lobe ovate obtuse, tumid or convex. *Column* short, semiterete, decurrent, spotted with purple on the plane surface. *Anther* sunk in a three-toothed clinandrium, hemispherical. *Pollen-masses* four, in two parallel series.

Fig. 1. Labellum. 2. Column and anther. 3. Pollen-masses :—*magnified.*

1756.

Tab. 4756.

BILLBERGIA thyrsoidea.

Dense-flowered Billbergia.

Nat. Ord. Bromeliaceæ.—Hexandria Monogynia.

Gen. Char. Perigonii superi sexpartiti laciniæ exteriores calycinæ, æquales, ecarinatæ, erectæ vel spiraliter convolutæ, aristatæ vel muticæ, apice hinc oblique dilatatæ; interiores petaloideæ, exterioribus multo longiores, apice patentes v. erectæ, intus basi squamosæ v. bicristatæ, rarius nudæ. *Stamina* 6, epigyna; *filamenta* filiformia, tria plerumque perigonii laciniis interioribus adnata; *antheræ* ovatæ, dorso affixæ, incumbentes v. suberectæ. *Ovarium* inferum, triloculare. *Ovula* plurima, e loculorum angulo centrali pendula, anatropa. *Stylus* filiformis; *stigmata* 3, petaloidea, convoluta, v. linearia, crispa. *Bacca* subglobosa, trilocularis. *Semina* plurima, nuda vel umbilicum filo gracili appendiculata.—Herbæ *Americanæ tropicæ, sæpius super arborum truncis pseudoparasiticæ, exscapæ v. scapigeræ;* foliis *ligulatis, linearibus v. ensiformibus, ut plurimum spinuloso-serrulatis;* floribus *spicatis, paniculatis;* spathis *floralibus nunc nullis, nunc parvis, v. amplis, coloratis. Endl.*

Billbergia *thyrsoidea;* foliis erectis lato-ligulatis obtusis cum acumine æqualiter concavis spinoso-serratis scapo paulo longioribus, spathis ovato-lanceolatis acuminatis, spica thyrsoidea, floribus densis subebracteatis, germinibus calycibusque albo-farinosis, petalis obtusis calyce multo longioribus.

Billbergia thyrsoidea. *Martius, in Fl. Brasil. ined. Schultz, Syst. Veget. v.* 7. *p.* 1260.

A richly-coloured and very handsome Bromeliaceous plant, native of Brazil, presented to our garden by Messrs. Henderson, of the Nursery, St. John's Wood, under the name here retained, and which quite accords with the species so called by Martius, which he found growing in rocky places about Rio Janeiro. It is quite different from *Billbergia pyramidalis*, and every other with which we are acquainted. Our readers will observe, that, though the leaves grow erect, or nearly so, on the living plant, our figure of the leaf represents it bent back, to enable us to bring an entire one into the plate. It requires the heat of the stove, and flowered with us in November of the present year, 1853.

Descr. *Leaves* one to two feet long, erect or erecto-patent,

having a slightly reflected curvature, broadly ligulate, of a rather full green on the upper side, paler beneath, when seen under a microscope slightly filamentose or flocculose on the surface, the margin spinuloso-serrate; the base is very convex, somewhat utriculose; the rest convex, or rather canaliculate, plane towards the apex, which latter is obtuse, with a spinulose acumen. *Peduncle* central, shorter than the leaves, terete, imbricated with large, lax, oblong, or lanceolate and acuminated, involute, red *bracteas*, and terminated by a dense thyrsoid *spike* of many red *flowers*. *Flowers* sessile or nearly so. *Ovary* inferior, oblong, and, as well as the three short, erect lobes of the calyx, clothed with a white powder. *Petals* three, elongated, four times as long as the calyx, subspathulate; the apex reflexed, oblique, and ciliated; the margin below involute, with two teeth near the base, and one higher up on each side. At the base of each petal are also two fimbriated scales. *Stamens* shorter than the petals. *Anthers* yellow. *Style* longer than the stamens, terminated by the three dark-green, spirally twisted lobes of the *stigma*.

Fig. 1. Flower. 2. Petal and stamen. 3. Pistil:—*more or less magnified.*

2.

1.

Tab. 4757.

DIDYMOCARPUS Humboldtiana.

Humboldtian Didymocarpus.

Nat. Ord. Cyrtandraceæ.—Diandria Monogynia.

Gen. Char. Calyx quinquefidus vel quinquepartitus. *Corolla* infundibuliformis, limbo 5-lobo subirregulari rarius bilabiato. *Stamina* 4, quorum 2 (rarius 4) antherifera. *Antheræ* reniformes. *Ovarium* elongatum. *Stylus* brevis. *Stigma* orbiculatum, indivisum. *Capsula* siliquiformis, bivalvis, valvis introflexis falso-4-locularibus. *Semina* nuda, lævia, pendula.—Suffrutices *aut* herbæ *Indicæ, caulescentes aut acaules.* Folia *radicalia aut caulina, alterna aut sæpius opposita, inæqualia.* Pedunculi *axillares racemosi aut dichotomo-cymosi.* Flores *violacei aut albi. De Cand.*

Didymocarpus *Humboldtiana;* tomentosa, acaulis, foliis radicalibus petiolatis ovato-ellipticis basi obtusis vel subcordatis apice obtusissimis crenatis supra piloso-tomentosis subtus lanuginoso-tomentosis, scapis folio longioribus trichotomis, bracteis oblongis obtusis tomentosis, lobis calycinis villosis linearibus obtusis persistentibus, capsulis pollicaribus siliquosis apice attenuatis.

Didymocarpus Humboldtiana. *Gardn. Contrib. towards a Fl. of Ceylon, in M'Clell. Calc. Journ. of Nat. Hist. v.* 6. *p.* 477. *Walpers, Ann. Bot. v.* 3. *p.* 96.

Mrs. General Walker first communicated copious specimens of this pretty plant from the elevated mountains in Ceylon; and Mr. Gardner afterwards detected the same in moist shady rocks above Rambodde, at an elevation of from 4000 to 5000 feet above the sea, in the same country, and published it, along with some other new plants of the same natural family, in the work above quoted, under the name we have adopted, dedicated, as Mr. Gardner says, to the "Prince of scientific travellers." It may admit of doubt how far the *D. primulæfolia*, of the same author, is distinct from this. We have received seeds of our present plant from Mr. Thwaites, from which plants are raised, and which flower in a warm greenhouse in October. The habit of this is so like that of *Chirita Sinensis* (see our Tab. 4284), that one cannot but doubt whether they should not be referred to one and the same genus. The flowers are much smaller, and less highly coloured, in the present plant.

December 1st, 1853.

Descr. Stemless. From a perennial, short, fibrous *caudex*, arises a more or less spreading cluster of *leaves*, which are nearly elliptical, very obtuse, rather long, petiolate, obtuse or a little tapering at the base, crenate, penniveined and much reticulated, piloso-tomentose above, lanuginously tomentose and paler beneath. *Scapes* several from the same root, twice or thrice longer than the leaves, naked, two or three times di-trichomotously divided, so as to form a lax *panicle* in the inflorescence; ramifications slender, furnished with small, oblong, villous, opposite *bracteas*. *Flowers* drooping. *Calyx* small, persistent, deeply five-partite, the lobes linear, erect, villous. *Corolla* pale lilac, campanulate rather than infundibuliform; *limb* spreading, five-lobed, lobes nearly equal. *Stamens* included: two are fertile, two sterile; and there is the rudiment of a fifth stamen in the shape of a small filament. *Anthers* subreniform, large, one-celled, cohering. *Ovary* oblong, glanduloso-pubescent, tapering into a distinct *style*, and terminated by an obscurely bilamellate *stigma*. *Fruit* scarcely mature, siliquose, terete, elongated, slightly curved, and tapering into the persistent subulate *style*.

Fig. 1. Stamens. 2. Pistil:—*magnified.*